# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Basic Electronics | | |
| **Course Code** | ECL0101[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To become familiar with various types of semiconductors and basic electronic devices.**(BL1-Remember)**<br>**CO2-** To understand the operation of various electronic devices.**(BL2-Understand)**<br>**CO3-** To implement the concepts of semiconductors to various semiconductor devices.**(BL3-Apply)**<br>**CO4-** To analyze the various electronic devices and their frequency response.**(BL4-Analyze)**<br>**CO5-** To evaluate the performance of electronic devices such as diodes, transistors, function generators, and cathode ray oscilloscopes.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | 1 |
| CO2 | 3 | 2 | 1 | - | - | 2 | - | - | - | 3 | - | - | 2 | 2 | 2 |
| CO3 | 1 | 1 | 1 | 3 | - | - | - | - | - | - | - | - | 2 | 3 | 2 |
| CO4 | 1 | 1 | 1 | 3 | 2 | - | - | - | - | - | - | - | 3 | 3 | 2 |
| CO5 | 1 | 1 | - | 2 | - | - | - | - | - | - | - | - | 2 | 3 | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Principles of Sensors & IoT | | |
| **Course Code** | ECL0102[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the basic definitions, key terminologies of Sensors, Smart Sensors, & IoT. **(BL1-Remember)**<br>**CO2-** To understand the working principles, concepts, & circuit designs of various sensors.**(BL2-Understand)**<br>**CO3-** To apply that how to make Sensors by using different electronic components, apply an integrated knowledge on the Sensors, work with and interpret the data obtained from various sensor applications**(BL3-Apply)**<br>**CO4-** To analyse various parameters of sensors using simulation or performing experiments on kits.**(BL4-Analyze)**<br>**CO5-** Evaluate performance of sensors & actuators for various applications.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG11(Sustainable cities and economies) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | - | - | - | 2 | 2 | - | - | 3 | 3 | - | - | 3 | 2 | 2 |
| CO2 | 3 | 1 | 2 | 1 | 1 | 2 | 2 | 1 | 2 | 3 | 1 | - | 3 | 3 | 3 |
| CO3 | - | 1 | 3 | 2 | 1 | 2 | 2 | 2 | - | 1 | - | 3 | 3 | 3 | 2 |
| CO4 | 1 | 2 | 2 | 3 | 2 | - | - | 2 | - | - | 2 | 1 | 3 | 2 | 2 |
| CO5 | - | - | - | - | 1 | 2 | - | - | - | - | 2 | - | 3 | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Communication Skills & Colloquium | | |
| **Course Code** | HUL0101[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Comprehend and summarize characteristics & various structural principlesprerequisite to Technical Communication ( **(BL1-Remember)**<br>**CO2-** Classify and formulate the elementary intricacies of Scientific and Technical Writing using application grammar construct.**(BL2-Understand)**<br>**CO3-** Create cohesive technical paragraphs & text.**(BL3-Apply)**<br>**CO4-** Paraphrase text(s) and use appropriate referencing styles**(BL4-Analyze)**<br>**CO5-** Evaluate the significance of Formal Writing**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✗<br>Gender ✗<br>Human Values ✗<br>Environment ✗ | **SDG (Goals)** | SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | - | 2 | - | 2 | 2 | - | - | - | 2 | - | - | 1 | - | 1 |
| CO2 | 2 | 2 | 1 | 2 | 2 | 2 | - | - | - | 2 | - | - | 1 | - | 3 |
| CO3 | 2 | 1 | 1 | - | 1 | - | - | - | - | 2 | - | - | 3 | 2 | 3 |
| CO4 | 3 | 2 | - | 2 | 1 | - | - | - | - | 2 | - | - | 2 | 3 | 3 |
| CO5 | 3 | 2 | - | 2 | 1 | - | - | - | - | 2 | - | - | 2 | 2 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Calculus For Engineers | | |
| **Course Code** | MAL0101[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Knowledge about the derivative and use of derivative to expand the functions and evaluation of Maxima and Minima.**(BL1-Remember)**<br>**CO2-** Knowledge about the vector valued function directional derivative, gradient, divergence and curl with their properties**(BL2-Understand)**<br>**CO3-** Applying: Partial derivatives and its applications apply to evaluate the Maxima and Minima.**(BL3-Apply)**<br>**CO4-** Find the area under a given curve, length of an arc through integration as application to Beta and Gamma Function.**(BL4-Analyze)**<br>**CO5-** Evaluating: Find the area and volume by applying the techniques of double and triple integrals., **(BL5-Evaluate)**<br>**CO6-** Applications of vector valued function in integration to find line , surface and volume.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | 3 | 1 | 2 | 2 | - | - | - | - | - | - | - | - | 2 | 3 |
| CO2 | 2 | 3 | 1 | 2 | 2 | - | - | - | - | - | - | - | - | 2 | 3 |
| CO3 | 2 | 2 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 3 |
| CO4 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | 1 | 2 |
| CO5 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | 1 | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Engineering Mechanics | |
| **Course Code** | MEL0101[T] | |
| **Course Outcomes & Bloom's Level** | **CO1-** CO1 Remember the basics of sciences in effects of system of forces on rigid bodies in static and kinetic conditions**(BL1-Remember)**<br>**CO2-** CO2 Understand the basics of sciences in effects of system of forces on rigid bodies in static and kinetic conditions.**(BL2-Understand)**<br>**CO3-** CO3 Apply system of forces in the belts drive systems as power transmission devices, shafts and beams.**(BL3-Apply)**<br>**CO4-** CO4 Analyze the beams and trusses with centre of mass and moment of inertia. **(BL4-Analyze)**<br>**CO5-** CO5 Evaluate shear force and bending moment in designing of shafts and beams and trusses.**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | 2 | - | - | - | - | 1 | - | - | 1 | 1 | 1 | 1 | 1 | 1 |
| CO2 | 3 | 3 | 1 | 1 | - | 1 | 3 | - | 1 | 1 | 1 | 2 | 1 | 1 | 1 |
| CO3 | 3 | 3 | 3 | 2 | 2 | 2 | 1 | 2 | 1 | - | 1 | 2 | 1 | 1 | 1 |
| CO4 | 3 | 3 | 2 | 3 | 2 | 2 | 1 | - | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| CO5 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Electronics Workshop Practice | |
| **Course Code** | ECP0101[P] | |
| **Course Outcomes & Bloom's Level** | **CO1-** Use ESD accessories and safety systems for electronic equipment**(BL1-Remember)**<br>**CO2-** Understand sensors and electronics device for various parameters,**(BL2-Understand)**<br>**CO3-** Apply various electronic components using relevant equipment**(BL3-Apply)**<br>**CO4-** Analyze various parts of SMPS, UPS, perform soldering and desoldering of SMD components**(BL4-Analyze)**<br>**CO5-** Evaluate various types of Switches, Relays, Connectors, Cables, Network and Data cables**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | 2 | - | 3 | - | 1 | 3 | - | - | - | - | - | - | - | - |
| CO2 | 3 | 3 | 3 | 2 | - | 2 | 3 | - | - | - | - | - | - | - | - |
| CO3 | 2 | 2 | 2 | 2 | 1 | 2 | 3 | - | - | - | - | - | - | - | - |
| CO4 | 2 | - | - | 3 | - | 2 | 3 | - | - | - | - | - | - | - | - |
| CO5 | 2 | 2 | 2 | 3 | 2 | 2 | 3 | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Essentials of Information Technology | | |
| **Course Code** | CSL0201[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Understand the basics of Computer systems like types, I/O devices, storage of computer systems (Knowledge, Understand)**(BL1-Remember)**<br>**CO2-** Apply the various networking concepts, topologies and remove deadlocks. (Apply).**(BL2-Understand)**<br>**CO3-** Explain various memory management techniques and Analyze the concept of Sub-programs and blocks (Analysis)**(BL3-Apply)**<br>**CO4-** Design the concept of software, operating system for better utilization of external system (Design)**(BL4-Analyze)**<br>**CO5-** Evaluating the various algorithm, its solution and other communication techniques. (Investigation).**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education)<br>SDG8(Decent work and economic growth) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | - | - | - | - | - | - | - | - | - | - | - | 1 | 1 | 2 |
| CO2 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | 3 | 3 | 2 |
| CO3 | - | - | 1 | - | - | - | - | - | - | - | - | - | 3 | 2 | 2 |
| CO4 | - | - | - | 2 | - | - | - | - | - | - | - | - | 2 | 2 | 2 |
| CO5 | - | - | - | - | - | - | - | - | - | - | - | - | 2 | 2 | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Fundamentals of Arduino Programming | | |
| **Course Code** | ECL0261[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the basic definitions, key terminologies of Arduino IDE, actuators, Sensors & IoT**(BL1-Remember)**<br>**CO2-** To understand the working principles, concepts, & circuit designs of various Sensors & Actuators for IoT. **(BL2-Understand)**<br>**CO3-** To apply that how to interface with and interpret the data obtained from various IoT applications **(BL3-Apply)**<br>**CO4-** To analyse various smart systems using simulation or performing experiments on IoT builder kit**(BL4-Analyze)**<br>**CO5-** Evaluate performance of various logics & designs of sensors with IoT systems for various applications. **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | 1 | 2 | - | - | - | - | 2 | 3 | - | - | - | 2 | - |
| CO2 | 2 | - | - | - | 3 | - | - | - | 1 | - | - | - | - | - | 2 |
| CO3 | - | - | 1 | - | 1 | - | - | - | - | - | - | - | 1 | 2 | - |
| CO4 | - | - | - | 2 | - | - | - | - | 1 | 2 | - | - | - | - | 3 |
| CO5 | - | - | 2 | 1 | 2 | - | - | - | 3 | - | - | - | 2 | 1 | - |
| CO6 | - | - | - | - | - | - | 1 | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Principles of Electrical Engineering | |
| **Course Code** | EEL0201[T] | |
| **Course Outcomes & Bloom's Level** | **CO1-** Predict the behavior of any electrical circuits, Formulate and solve complex DC circuits.**(BL1-Remember)**<br>**CO2-** Predict the behavior of any electrical circuits, Formulate and solve complex single phase AC circuits.**(BL2-Understand)**<br>**CO3-** Predict the behavior of any electrical circuits, Formulate and solve complex Three phase AC circuits.**(BL3-Apply)**<br>**CO4-** Identify the type of electrical machine used for that particular application. Realize the requirement of transformers in transmission and distribution of electric power and other applications.**(BL4-Analyze)**<br>**CO5-** Predict the behavior of various measuring instruments in electrical engineering**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | 1 | 2 | 1 | 1 | - | - | - | - | - | 1 | 1 | 1 | 1 | 2 |
| CO2 | 1 | 1 | 2 | 1 | 1 | 1 | - | 1 | - | - | 1 | 1 | 2 | 3 | 1 |
| CO3 | 2 | 1 | 2 | 1 | 2 | - | 1 | - | - | - | 1 | 1 | 1 | 2 | 2 |
| CO4 | 1 | 1 | 1 | 2 | 1 | - | - | - | - | - | 1 | 1 | 3 | 1 | 3 |
| CO5 | 1 | 1 | 1 | 2 | 1 | - | - | - | - | - | 1 | - | 2 | 2 | 1 |
| CO6 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | 1 | 1 | 1 | 3 | 2 |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Statistics for Engineers | | |
| **Course Code** | MAL0203[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember basic concept of about the design data collection plans and basic tools of descriptive statistics.**(BL1-Remember)**<br>**CO2-** To understand the identify relationship between two variables using scatter plot and Interpret a simple correlation. To understand the Knowledge about the different types of continuous distribution with their properties and applications.**(BL2-Understand)**<br>**CO3-** To apply the test and make hypothesis by Student's t-test, F-test, chi-square test, Z test, goodness of fit.**(BL3-Apply)**<br>**CO4-** To analyze the concept of sampling distribution of a statistic and its properties, difference between parameter and statistic.**(BL4-Analyze)**<br>**CO5-** To evaluate and describe the properties of unbiasedness. Also identifying and provide an application the null hypothesis, alternative hypothesis and test statistic.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | - | - | - | 2 | 2 | - | 1 | - | - | - | - | 1 | - | 1 |
| CO2 | 3 | 3 | 1 | 3 | 3 | 2 | - | 1 | - | 1 | - | - | 2 | - | 2 |
| CO3 | 3 | 2 | - | 1 | 3 | - | - | - | - | - | - | - | 1 | 3 | 2 |
| CO4 | 3 | 2 | - | 2 | - | - | - | - | - | - | - | - | - | 3 | 1 |
| CO5 | 2 | 2 | - | 1 | - | - | - | - | - | - | - | - | - | 2 | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Environmental Pollution & Global Issues | | |
| **Course Code** | MCL0201[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** CO1. Develop environmental scientists and engineers and sensitize them towards environmental issues.**(BL2-Understand)**<br>**CO2-** CO2. To acquire analytical skills in assessing environmental impacts through a multidisciplinary approach**(BL3-Apply)**<br>**CO3-** CO3. Ability to distinguish between various methods of various pollution analysis**(BL4-Analyze)**<br>**CO4-** CO4.Acquire expertise and skills needed for the Environmental Management Systems and techniques of monitoring, Environment audit, Environmental Impact Analysis, environment instrumentation and control systems and for the projects development, implementation, and maintenance.**(BL5-Evaluate)**<br>**CO5-** CO5. Students acquire skills for to communicate, prepare, plan and implement the environmental management project**(BL6-Create)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✓<br>Gender ✕<br>Human Values ✓<br>Environment ✓ | **SDG (Goals)** | SDG2(Zero hunger)<br>SDG3(Good health and well-being)<br>SDG5(Gender equality)<br>SDG6(Clean water and sanitation)<br>SDG7(Affordable and clean energy)<br>SDG8(Decent work and economic growth)<br>SDG10(Reduced inequalities)<br>SDG11(Sustainable cities and economies)<br>SDG12(Responsible consuption and production)<br>SDG13(Climate action)<br>SDG14(Life below water)<br>SDG15(Life on land)<br>SDG17(Partnerships for the goals) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | 2 | 2 | - | - | - | 2 | - | - | 1 | - | 1 |
| CO2 | 1 | 2 | 1 | 2 | 2 | 2 | - | - | - | 2 | - | - | 1 | - | 3 |
| CO3 | 2 | 1 | 1 | - | 1 | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO4 | 2 | 2 | - | 2 | 1 | - | - | - | - | - | - | - | 2 | 3 | 3 |
| CO5 | 2 | 2 | - | 2 | 1 | - | - | - | - | - | - | - | 2 | 2 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Making of Modern India | | |
| **Course Code** | MCL0202[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** At the end of this course, students would be intellectually well equipped to have a sense of modern Indian history and culture.**(BL1-Remember)**<br>**CO2-** The students will have an understanding of making of India as a nation and salient features of modern India**(BL2-Understand)**<br>**CO3-** It will help students to develop their personality and thinking horizon for being a good and concerned Indian citizen**(BL3-Apply)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✓<br>Human Values ✓<br>Environment ✕ | **SDG (Goals)** | SDG4(Quality education)<br>SDG5(Gender equality)<br>SDG15(Life on land) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | 2 | - | 1 | - | - | - | - | - | - | - | - | - | - | - |
| CO2 | - | - | 2 | - | - | 1 | - | - | 1 | - | - | - | - | - | - |
| CO3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CO4 | - | - | - | - | - | - | - | - | 2 | 1 | - | - | - | - | - |
| CO5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Engineering Graphics | |
| **Course Code** | MEL0202[T] | |
| **Course Outcomes & Bloom's Level** | **CO1-** To get the fundamentals of engineering graphics, geometrical construction and its applications.**(BL1-Remember)**<br>**CO2-** To understand the basic concept of engineering graphics through real-life examples. **(BL2-Understand)**<br>**CO3-** To implement the different engineering graphics concepts over appropriate drawing dataset. **(BL3-Apply)**<br>**CO4-** To analyze the drawing performance of engineering graphics techniques.**(BL4-Analyze)**<br>**CO5-** To evaluate the drawing performance of engineering graphics techniques on a corresponding object.**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | - | - | - | 2 | 2 | - | - | 3 | 3 | - | - | 3 | - | 2 |
| CO2 | 2 | - | 2 | 2 | 1 | 2 | - | - | 3 | 3 | - | - | 3 | 2 | 2 |
| CO3 | - | - | 2 | 1 | 1 | - | - | - | 2 | 1 | - | - | 3 | 2 | 2 |
| CO4 | - | 1 | 2 | 3 | 1 | - | - | - | - | - | - | - | 3 | - | 2 |
| CO5 | - | 1 | 1 | 2 | 1 | - | - | - | - | - | - | - | 3 | - | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Programming Logics | | |
| **Course Code** | CSP0201[P] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Remember: Recall the syntax and basic concepts of C programming.**(BL1-Remember)**<br>**CO2-** Understand: Explain the meaning of C programming constructs and how they work together**(BL2-Understand)**<br>**CO3-** Apply : Apply the various conditional and looping statement and functional programming.**(BL3-Apply)**<br>**CO4-** Analyzing: Analyze and evaluate C programming code to identify errors and optimize performance.**(BL4-Analyze)**<br>**CO5-** Evaluate : Evaluate the effectiveness of C programming solutions and propose improvements.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | 2 | - | - | - | - | - | - | - | 2 | 3 | 1 |
| CO2 | 1 | 2 | 1 | 2 | 2 | 1 | - | - | - | - | - | - | 1 | - | 3 |
| CO3 | 2 | - | 1 | - | - | 2 | - | - | - | - | - | - | 3 | 2 | 2 |
| CO4 | 2 | 1 | - | 2 | 1 | - | - | - | - | - | - | - | 3 | 3 | 2 |
| CO5 | 2 | 2 | - | 2 | 1 | - | - | - | - | - | - | - | 2 | 2 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Semiconductor Devices | | |
| **Course Code** | ECL0303[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To become familiar with various types of diodes like the Schottky diode, tunnel diode, PIN diode. **(BL1-Remember)**<br>**CO2-** To understand the operation of various electronic devices like BJT, JFET, and MOSFET. **(BL2-Understand)**<br>**CO3-** To apply the concept of amplifiers to the various types of feedback amplifiers. **(BL3-Apply)**<br>**CO4-** To analyze various electronics devices and their frequency response.**(BL4-Analyze)**<br>**CO5-** To design various types of oscillators and feedback amplifiers. **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education)<br>SDG8(Decent work and economic growth) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | 2 | - | - | - | - | - | - | - | - | - | 2 | 2 | - | - |
| CO2 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | 2 | 2 | - | - |
| CO3 | 2 | 2 | 3 | - | - | - | - | - | - | - | - | 2 | 2 | - | - |
| CO4 | 2 | 2 | - | 2 | - | - | - | - | - | - | - | 2 | 2 | - | - |
| CO5 | 3 | 3 | - | 2 | - | - | - | - | - | - | - | 2 | 2 | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Architecturing of Smart IoT Devices | | |
| **Course Code** | ECL0304[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the basic definitions, key terminologies of Architecture of IoT, IoT architecture standards, Networking Technologies, IoT Protocols. **(BL1-Remember)**<br>**CO2-** To understand the basic concepts, & programming environment of various IoT Platforms.**(BL2-Understand)**<br>**CO3-** To apply that how to these technologies work with and interpret the data obtained from various IoT applications.**(BL3-Apply)**<br>**CO4-** To analyse various IoT architecture reference models using simulation or performing experiments on IoT builder kit.**(BL4-Analyze)**<br>**CO5-** Evaluate performance of IoT systems for various applications.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education)<br>SDG11(Sustainable cities and economies) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | 1 |
| CO2 | 3 | 2 | 1 | - | - | 2 | - | - | - | 3 | - | - | 2 | - | 2 |
| CO3 | 1 | 2 | 1 | 3 | 2 | - | - | - | - | - | - | - | 2 | 2 | 2 |
| CO4 | 1 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 3 | 3 |
| CO5 | 1 | 2 | - | 2 | - | - | - | - | - | - | - | - | 2 | 3 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Digital Electronics | | |
| **Course Code** | ECL0306[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To learn basic techniques for the design of digital circuits and fundamental concepts used in the design of digital systems **(BL1-Remember)**<br>**CO2-** To understand common forms of number representation in digital electronic circuits and to be able to convert between different representations **(BL2-Understand)**<br>**CO3-** To Apply simple logical operations using combinational logic circuits [BL3]**(BL3-Apply)**<br>**CO4-** To analysis of combinational logic circuits, sequential logic circuits [BL4] **(BL4-Analyze)**<br>**CO5-** To Evaluate to student the concepts of sequential circuits, enabling them to analyze sequential systems in terms of state machines [BL5]**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG8(Decent work and economic growth) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | - | 2 | - | - | - |
| CO2 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | - | - |
| CO3 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | - | - |
| CO4 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | - | - |
| CO5 | 2 | 2 | 2 | 2 | - | - | - | - | - | 2 | - | 2 | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Network Analysis & Synthesis | | |
| **Course Code** | ECL0307[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the concepts of basic electric circuits.**(BL1-Remember)**<br>**CO2-** To understand & gain the knowledge on basic network elements**(BL2-Understand)**<br>**CO3-** To implement the concept of TPN, RLC, RL, LC, RC circuits in other electronics devices. **(BL3-Apply)**<br>**CO4-** To analyze the various electrical and electronics hardware circuit and Gain the knowledge about network Synthesis.**(BL4-Analyze)**<br>**CO5-** To Evaluation of various electrical parameters (current, voltage, power etc.) of RLC circuits.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | 3 | 2 | 1 | - | - | 2 | - | - | - | 3 | - | - | 2 | - | 2 |
| CO3 | 1 | 1 | 1 | 3 | - | - | - | - | - | - | - | - | 2 | 2 | 2 |
| CO4 | 1 | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | 3 | 3 |
| CO5 | 1 | 2 | - | 2 | - | - | - | - | - | - | - | - | 2 | 3 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Engineering Mathematics | | |
| **Course Code** | MAL0306[T] | | |
| **Course Outcomes & Bloom's Level** | | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | 2 | 2 | - | - | - | 2 | - | - | 1 | - | 1 |
| CO2 | - | - | 1 | 2 | 2 | 2 | - | - | - | 2 | - | - | 1 | - | 3 |
| CO3 | - | - | 1 | - | 1 | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO4 | - | - | - | 2 | 1 | - | - | - | - | - | - | - | 2 | 3 | 3 |
| CO5 | - | - | - | 2 | 1 | - | - | - | - | - | - | - | 2 | 2 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Object Oriented Programming with Java | | |
| **Course Code** | CSP0303[P] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the basic principles of the object-oriented programming **(BL1-Remember)**<br>**CO2-** Understand the basic concept of the object-oriented programming **(BL2-Understand)**<br>**CO3-** Apply the logic of oops in java **(BL3-Apply)**<br>**CO4-** Able to Analyze inheritance and abstraction **(BL4-Analyze)**<br>**CO5-** Demonstrate an introductory understanding of graphical user interfaces, multithreaded programming, and event-driven programming**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | 2 | 2 | - | - | - | - | - | - | 2 | 2 | 2 |
| CO2 | 1 | 1 | - | 2 | 2 | 2 | - | - | - | - | - | - | 2 | 2 | 3 |
| CO3 | 2 | 1 | 1 | - | 1 | - | - | - | - | - | - | - | 2 | 3 | 2 |
| CO4 | 2 | 1 | 1 | 2 | 1 | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO5 | 1 | - | - | 2 | 1 | - | - | - | - | - | - | - | 2 | 2 | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Evaluation of Industrial Training-I | |
| **Course Code** | ECD0301[P] | |
| **Course Outcomes & Bloom's Level** | **CO1-** Apply theoretical knowledge from coursework to solve real-world industry problems. (e.g., utilize marketing principles to develop a campaign for a local business) **(BL1-Remember)**<br>**CO2-** Demonstrate proficiency in industry-standard tools and technologies relevant to the internship field. (e.g., use design software to create graphics for a company website) **(BL2-Understand)**<br>**CO3-** Analyze and interpret data collected during the internship experience. (e.g., analyze customer feedback to improve product design).**(BL3-Apply)**<br>**CO4-** Enhance critical thinking skills by analyzing and evaluating the outcomes of assigned projects or tasks.**(BL4-Analyze)**<br>**CO5-** Compile a comprehensive report documenting the learning experiences, challenges, and achievements during the internship period.**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | - | - | - | - | - | 2 | - | - | - | - | 3 |
| CO2 | 1 | 2 | 1 | 2 | 1 | - | - | - | - | 2 | - | - | - | - | 3 |
| CO3 | 1 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | - | 2 |
| CO4 | 1 | 2 | 2 | - | 2 | - | - | - | - | - | - | - | - | - | - |
| CO5 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Data Structure and Application | | |
| **Course Code** | CSL0457[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember various syntax of C programming **(BL1-Remember)**<br>**CO2-** To understand the Basic concept of Data structure, application areas and tools for data science **(BL2-Understand)**<br>**CO3-** Applying coding for handling logic data and algorithm for handling data from data files **(BL3-Apply)**<br>**CO4-** Analyzing the hash function concepts of collision and its resolution methods **(BL4-Analyze)**<br>**CO5-** To evaluate and summarize the data structure using statistical & visualization tools**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education)<br>SDG11(Sustainable cities and economies) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | 1 | 2 | - | - | - | 3 | - | - | - | - | 1 |
| CO2 | 1 | 3 | 1 | - | 1 | 2 | - | - | - | 3 | - | - | - | - | 3 |
| CO3 | 3 | 2 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO4 | 3 | 3 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO5 | 2 | 3 | - | 1 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Electronics Circuits & Linear ICs Applications | | |
| **Course Code** | ECL0408[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To get familiarized with basic integrated circuit components, its designing & packaging.**(BL1-Remember)**<br>**CO2-** Understanding various operating modes of Op-amp and its linear/non-linear applications**(BL2-Understand)**<br>**CO3-** apply the concepts of transistors to understand the working of power amplifiers**(BL3-Apply)**<br>**CO4-** To analyze various operational amplifier circuits.**(BL4-Analyze)**<br>**CO5-** To evaluate the performance of various types of active filters and their design**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | 2 | - | - | - | - | - | 3 | - | - | - | - | 3 |
| CO2 | - | 2 | - | 2 | - | - | - | - | - | 3 | - | - | - | - | 3 |
| CO3 | - | 2 | - | 3 | - | - | - | - | - | 1 | 1 | 1 | - | - | 3 |
| CO4 | - | 1 | - | 1 | - | - | - | - | - | - | 1 | 1 | - | - | 3 |
| CO5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Digital System Design | | |
| **Course Code** | ECL0409[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember various concept of Digital system design**(BL1-Remember)**<br>**CO2-** Understand the digital systems as an activity in a larger systems design context**(BL2-Understand)**<br>**CO3-** Apply the concept of digital system design**(BL3-Apply)**<br>**CO4-** Analyze the concept of digital system design**(BL4-Analyze)**<br>**CO5-** Evaluate Programmable logic devices (PLDs) and networks of arithmetic operations.B**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | 3 | -2 | 1 | - | - | - | - | - | 1 | - | 3 | 2 | 1 | - |
| CO2 | 3 | 3 | 3 | 1 | - | - | - | - | - | 1 | - | -3 | 3 | 1 | - |
| CO3 | 3 | 3 | 2 | 1 | - | - | - | - | - | 1 | - | 3 | 2 | 1 | - |
| CO4 | 3 | 3 | 2 | 1 | - | - | - | - | - | 1 | - | 3 | 3 | 1 | - |
| CO5 | 3 | 3 | 2 | 1 | 2 | - | - | - | - | 1 | - | 3 | 3 | 2 | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Analog Communication | | |
| **Course Code** | ECL0411[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** :To remember the properties of signals & concepts of communication**(BL1-Remember)**<br>**CO2-** To Understand basic characteristics of signal, Modulation & demodulation techniques of AM, DSB, SSB &VSB**(BL2-Understand)**<br>**CO3-** Analyzing spectrum of AM, FM signal, noise characteristics in the channel communications and the percentage of modulation in FM and AM systems**(BL3-Apply)**<br>**CO4-** To evaluation of various communication parameters (Power, Energy, Modulation index etc. )**(BL4-Analyze)**<br>**CO5-** To Design low power AM and FM transmitters and receivers. **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | 3 | 2 | 1 | - | - | 2 | - | - | - | 3 | - | - | - | - | 2 |
| CO3 | 1 | 1 | 1 | 3 | 2 | - | - | - | - | - | - | - | - | - | 3 |
| CO4 | 1 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO5 | 1 | 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Wireless Sensor Networks & IoT | | |
| **Course Code** | ECL0460[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the basic terminologies of networking, sensor node architecture etc.**(BL1-Remember)**<br>**CO2-** To understand the important functions, concepts, algorithms &types of WSNs, Protocols. **(BL2-Understand)**<br>**CO3-** To apply the knowledge of programming to achieve a specific task/challenge. Gain knowledge about Power Management of WSNs**(BL3-Apply)**<br>**CO4-** To analyse the results by using computer-based tools/kits for engineering applications. Use computer programming tools to process and visualize results**(BL4-Analyze)**<br>**CO5-** To evaluate the applications of WSN in various fields such as research and industries**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education)<br>SDG11(Sustainable cities and economies) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | 3 | 2 | 1 | - | - | 2 | - | - | - | 3 | - | 1 | 2 | 2 | 2 |
| CO3 | 1 | 1 | 1 | 3 | 2 | - | - | - | - | - | - | - | 2 | 3 | 2 |
| CO4 | 1 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 3 | 3 |
| CO5 | 1 | 1 | - | 2 | - | - | - | - | - | - | - | - | 2 | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Computer Programming Lab (PYTHON) | | |
| **Course Code** | CSP0405[P] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Remember the syntax and semantics of Python Programming Language**(BL1-Remember)**<br>**CO2-** Understand the Basic concept of Python Programming **(BL2-Understand)**<br>**CO3-** Apply the concept of Python in ML **(BL3-Apply)**<br>**CO4-** Analysis the use of built-in functions to navigate the file system**(BL4-Analyze)**<br>**CO5-** Implement and evaluate the Python code in project **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | 2 | 2 | - | - | - | 2 | - | - | 1 | - | 1 |
| CO2 | 1 | 2 | 1 | 2 | 2 | 2 | - | - | - | 2 | - | - | 1 | - | 3 |
| CO3 | 2 | 2 | 1 | - | 1 | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO4 | 2 | 2 | - | 3 | 1 | - | - | - | - | - | - | - | 3 | 3 | 3 |
| CO5 | 2 | 2 | - | 2 | 1 | - | - | - | - | - | - | - | 2 | 2 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Electromagnetic Theory | |
| **Course Code** | ECL0512[T] | |
| **Course Outcomes & Bloom's Level** | **CO1-** To get familiarized with various coordinate systems**(BL2-Understand)**<br>**CO2-** To understand the various laws and theorems related to electromagnetics**(BL1-Remember)**<br>**CO3-** To apply various laws and theorems to derive Maxwell's equations**(BL3-Apply)**<br>**CO4-** To analyse various types of transmission mediums**(BL4-Analyze)**<br>**CO5-** To evaluate the performance of transmission lines**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | 1 | 1 | 1 | - | 1 | 1 | - | - | - | 1 | 1 | 2 | 1 | 2 |
| CO2 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | 3 | 2 | 2 |
| CO3 | 1 | 1 | 1 | 1 | 1 | - | 1 | - | - | - | 1 | - | 2 | 2 | 3 |
| CO4 | 1 | 1 | - | 1 | - | 1 | 1 | - | - | - | 1 | 1 | 2 | 2 | 2 |
| CO5 | 1 | - | 1 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | 2 | 3 | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Digital Communication | | |
| **Course Code** | ECL0513[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember various concept of Digital communication **(BL1-Remember)**<br>**CO2-** Understanding practical implementation issues, such as non-ideal filters, non-ideal sampling pulses, aliasing, and intersymbol-interference (ISI)[BL2].**(BL2-Understand)**<br>**CO3-** Apply error control coding techniques for efficient communication [BL3]**(BL3-Apply)**<br>**CO4-** To analyze digital pulse modulation techniques [BL4]**(BL4-Analyze)**<br>**CO5-** Evaluate fundamental communication system parameters, such as bandwidth, power and signal to quantization noise ratio and data rate**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | 2 | - | - | - | - | - | - | - | - | - | - | 2 | - | - |
| CO2 | 2 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 2 | - | - |
| CO3 | 2 | 3 | - | 1 | - | - | - | - | - | - | - | - | 2 | - | - |
| CO4 | 3 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | 2 | - | - |
| CO5 | 2 | 1 | - | - | - | - | - | - | - | - | - | - | 2 | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Control System | | |
| **Course Code** | ECL0514[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To become familiar with the concepts of signal & system. **(BL1-Remember)**<br>**CO2-** To understand the requirements of the control system and classification of the control system.**(BL2-Understand)**<br>**CO3-** To applied in real life application to find gain desirable output.**(BL3-Apply)**<br>**CO4-** To analyze transient or steady state behavior of control systems.**(BL4-Analyze)**<br>**CO5-** To evaluate the stability and characteristic of various types of control system. **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | - | - | - | - | - | 3 | - | - | - | - | - |
| CO2 | 3 | 2 | 1 | - | - | - | - | - | - | 3 | - | - | 3 | - | 2 |
| CO3 | 2 | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | - | 2 |
| CO4 | 1 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO5 | 1 | 2 | - | 2 | - | - | - | - | - | - | - | - | 1 | 3 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Advanced Microprocessors and Interfacing | | |
| **Course Code** | ECL0515[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Assess and solve basic binary math operations using the microprocessor and explain the microprocessor's and Microcontroller's internal architecture and its operation within the area of manufacturing and performance.**(BL1-Remember)**<br>**CO2-** Apply knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor and microcontroller**(BL3-Apply)**<br>**CO3-** Analyze assembly language programs; select appropriate assemble into machine a cross assembler utility of a microprocessor and microcontroller.**(BL4-Analyze)**<br>**CO4-** Design electrical circuitry to the Microprocessor I/O ports in order to interface the processor to external devices.**(BL5-Evaluate)**<br>**CO5-** Compare accepted standards and guidelines to select appropriate Microprocessor (8085 & 8086) and Microcontroller to meet specified performance requirements**(BL5-Evaluate)**<br>**CO6-** To train their practical knowledge through laboratory experiments.**(BL6-Create)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG8(Decent work and economic growth) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | - | 1 | 1 | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO3 | - | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | - | - | - |
| CO4 | - | 2 | 1 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| CO5 | - | - | - | 2 | - | - | - | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Digital Signal Processing | | |
| **Course Code** | ECL0519[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the basic terminologies of Signals, Systems & basic operations etc. **(BL1-Remember)**<br>**CO2-** To understand the concepts of trigonometry, complex algebra, Fourier transform, z-transform to analyze the operations on signals and acquire knowledge about Systems **(BL2-Understand)**<br>**CO3-** To apply the principles of discrete-time signal analysis to perform various signal operations and apply the principles of Fourier Transform analysis to describe the frequency characteristics of discrete-time signals and systems**(BL3-Apply)**<br>**CO4-** To analyze the signals & systems by using computer programming tools to process and visualize signals & Systems **(BL4-Analyze)**<br>**CO5-** To evaluate signal processing strategies at multidisciplinary activities.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | - | - | - | - | 2 | - | - | - | 3 | - | - | 2 | - | - |
| CO2 | 3 | 1 | 1 | - | - | 2 | - | - | - | 3 | - | - | 3 | - | 2 |
| CO3 | 2 | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | 2 | 2 |
| CO4 | 3 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 3 | 3 |
| CO5 | 2 | 1 | - | 2 | - | - | - | - | - | - | - | - | 1 | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Evaluation of Industrial Training-II | |
| **Course Code** | ECD0502[P] | |
| **Course Outcomes & Bloom's Level** | **CO1-** Apply theoretical knowledge from coursework to solve real-world industry problems. (e.g., utilize marketing principles to develop a campaign for a local business) **(BL1-Remember)**<br>**CO2-** Demonstrate proficiency in industry-standard tools and technologies relevant to the internship field. (e.g., use design software to create graphics for a company website) **(BL2-Understand)**<br>**CO3-** Analyze and interpret data collected during the internship experience. (e.g., analyze customer feedback to improve product design)**(BL3-Apply)**<br>**CO4-** Enhance critical thinking skills by analyzing and evaluating the outcomes of assigned projects or tasks.**(BL4-Analyze)**<br>**CO5-** Compile a comprehensive report documenting the learning experiences, challenges, and achievements during the internship period.**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | - | - | - | - | - | 2 | - | - | - | - | 2 |
| CO2 | 1 | 2 | 1 | 2 | - | - | - | - | - | 2 | - | - | - | - | 3 |
| CO3 | 1 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO4 | 1 | 2 | 2 | 3 | - | - | - | - | - | - | - | - | - | - | 2 |
| CO5 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Software Lab-I | | |
| **Course Code** | ECP0502[P] | | |
| **Course Outcomes & Bloom's Level** | | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | 2 | 1 | - | - | - | - | - | - | 1 | 1 | - | 1 |
| CO2 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | 1 | - |
| CO3 | - | - | - | 1 | - | - | - | - | - | - | - | 1 | - | - | - |
| CO4 | - | 1 | 1 | - | - | - | - | - | - | - | - | - | - | 1 | - |
| CO5 | - | - | 3 | - | 1 | - | - | - | - | - | - | - | 1 | - | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Antenna & Wave Propagation | | |
| **Course Code** | ECL0617[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To get familiarized with various antennas and their parameters.**()**<br>**CO2-** To understand various types of antenna and modes of propagation**(BL2-Understand)**<br>**CO3-** To apply the concept of the principle of pattern multiplication to antenna arrays. **(BL3-Apply)**<br>**CO4-** To analyze various type antennas and various modes of propagation. es of dipol**(BL4-Analyze)**<br>**CO5-** To evaluate the performance of various types of antennas and antenna arrays and their design.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | 3 | 2 | 1 | - | - | 2 | - | - | - | 3 | - | - | 3 | - | 2 |
| CO3 | 2 | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | 2 | 2 |
| CO4 | 1 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 3 | 3 |
| CO5 | 1 | 2 | - | 2 | - | - | - | - | - | - | - | - | 1 | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Micro controller & Embedded System | | |
| **Course Code** | ECL0618[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the basic terminologies of Microcontrollers, Microprocessors & Embedded Systems**(BL1-Remember)**<br>**CO2-** To understand the important functions, concepts & architecture of microcontrollers. **(BL2-Understand)**<br>**CO3-** To apply the knowledge of microcontroller programming and system to perform a specific task**(BL3-Apply)**<br>**CO4-** To analyse the results by using computer-based tools/kits for engineering applications. Use computer programming tools to process and visualize I/O Peripheral operations.**(BL4-Analyze)**<br>**CO5-** To evaluate the applications of microcontrollers in various fields such as research and industries **(BL5-Evaluate)**<br>**CO6-** To create/provide solutions for real world embedded systems. **(BL6-Create)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | 3 | 2 | 1 | - | - | 2 | - | - | - | 3 | - | - | 3 | - | 2 |
| CO3 | 2 | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | 2 | 2 |
| CO4 | 1 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 3 | 3 |
| CO5 | 1 | 2 | - | 2 | - | - | - | - | - | - | - | - | 1 | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Cellur & Mobile communication | | |
| **Course Code** | ECL0621[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the concepts of analog & digital communication.**(BL1-Remember)**<br>**CO2-** To understand & gain knowledge on the concept of cellular communication and devices.**(BL2-Understand)**<br>**CO3-** To apply frequency-reuse concept in mobile communications, and to analyze its effects on interference, system capacity, handoff techniques.**(BL3-Apply)**<br>**CO4-** To analyze path loss and interference for wireless telephony and their influences on a mobile communication system's performance.**(BL4-Analyze)**<br>**CO5-** To evaluation of various cellular parameters (gain, fading, propagation losses, etc).**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | - | 1 | 1 | - | - | 2 | - | - | - | 3 | - | - | 3 | - | 2 |
| CO3 | - | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | - | 2 |
| CO4 | - | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO5 | - | - | - | 2 | - | - | - | - | - | - | - | - | 1 | 3 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Machine Learning | | |
| **Course Code** | ECL0662[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember various concept of machine learning.**(BL1-Remember)**<br>**CO2-** To understand the basic concepts of machine learning, various machine learning models, Performance Evaluation techniques and how to improve the performance of the Machine Learning models.**(BL2-Understand)**<br>**CO3-** To implement various Machine Learning Models.**(BL3-Apply)**<br>**CO4-** To train & test machine Learning Models. **(BL4-Analyze)**<br>**CO5-** To evaluate the performance of Machine Learning Models.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | 2 | - | - | - | - | - | - | - | - | - | 1 |
| CO2 | 3 | 2 | 1 | - | 3 | - | - | - | - | - | - | 2 | - | 1 | 2 |
| CO3 | 1 | - | 1 | - | 1 | - | - | - | - | - | - | - | - | 2 | 2 |
| CO4 | 2 | 2 | - | - | 1 | - | - | - | - | - | - | - | - | - | - |
| CO5 | - | - | 2 | - | - | - | - | - | - | 1 | - | - | - | 1 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Mini Project | |
| **Course Code** | ECD0603[P] | |
| **Course Outcomes & Bloom's Level** | **CO1-** To increase writing skills and knowledge**(BL2-Understand)**<br>**CO2-** To enhance their mental ability**(BL3-Apply)**<br>**CO3-** To inculcate the ability to express innovative opinion and thought**(BL3-Apply)**<br>**CO4-** To have Dissertation works as skills development in student**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | - | 1 | - | - | - | - | 3 | - | - | - | - | 2 |
| CO2 | 1 | 2 | 1 | 2 | 2 | 3 | - | - | - | 3 | - | - | - | - | 3 |
| CO3 | 1 | 2 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | 3 |
| CO4 | 1 | 3 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | - | - |
| CO5 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Software Lab-II | | |
| **Course Code** | ECP0603[P] | | |
| **Course Outcomes & Bloom's Level** | | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✕<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | 2 | - | 3 | - | - | - | - | - | - | - | 1 | - | 2 |
| CO2 | - | 2 | - | 1 | - | - | - | - | - | - | - | - | - | 3 | - |
| CO3 | 2 | - | 1 | - | 2 | - | - | - | - | - | - | - | 2 | - | 1 |
| CO4 | 1 | 3 | - | 1 | - | - | - | - | - | - | - | - | - | 1 | - |
| CO5 | 2 | - | 3 | - | 2 | - | - | - | - | - | - | - | 1 | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Data Communication | | |
| **Course Code** | ECE0620[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Remember the concept of signals, OSI & TCP/IP reference models and discuss the functionalities of each layer in these models**(BL1-Remember)**<br>**CO2-** Understand the flow control and error control mechanisms and apply them using standard data link layer protocols **(BL2-Understand)**<br>**CO3-** To apply simple communication network using different topology **(BL3-Apply)**<br>**CO4-** To analysis the network topology and circuit for communication. **(BL4-Analyze)**<br>**CO5-** Evaluate the transport Layer Protocols (UDP, TCP) and suggest appropriate protocol in reliable/unreliable communication**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✓<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education)<br>SDG8(Decent work and economic growth) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | 3 | - | 2 |
| CO3 | - | 1 | 1 | - | - | - | - | - | - | - | - | - | 3 | - | 2 |
| CO4 | - | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO5 | - | - | 2 | - | - | - | - | - | - | - | - | - | 1 | 3 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Micro Electro Mechanical System (MEMS) | |
| **Course Code** | ECE0665[T] | |
| **Course Outcomes & Bloom's Level** | **CO1-** Remember the operation of micro devices, micro systems and their applications**(BL1-Remember)**<br>**CO2-** Understand the micro electro mechanical system concept **(BL2-Understand)**<br>**CO3-** Apply scaling laws that are used extensively in the conceptual design of micro devices and systems Choose a micromachining technique, such as bulk micromachining and surface micromachining for a specific MEMS fabrication process **(BL3-Apply)**<br>**CO4-** Analysis the concept of sensor, actuator and mems device **(BL4-Analyze)**<br>**CO5-** Simplify and Evaluate the design of micro devices, micro systems using the MEMS fabrication process **(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | - | 1 | - |
| CO2 | 1 | 1 | 2 | - | - | - | - | - | - | - | - | 1 | - | 1 | - |
| CO3 | 2 | 2 | 1 | - | - | - | - | - | - | - | - | 1 | - | 2 | - |
| CO4 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | - | 2 | - |
| CO5 | 1 | 3 | 2 | - | - | - | - | - | - | - | - | 2 | - | 3 | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Microwave Engineering | | |
| **Course Code** | ECL0723[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the concept of electromagnetic theory.**(BL1-Remember)**<br>**CO2-** To understand basic concepts and applications of microwave systems.**(BL2-Understand)**<br>**CO3-** To solve problems related to microwave transmission lines, microwave waveguide.**(BL3-Apply)**<br>**CO4-** To analyze, test and use various passive microwave components for different applications.**(BL4-Analyze)**<br>**CO5-** To evaluation of various characteristic and microwave parameters like VSWR, impedance, power, wavelength etc. of microwave devices.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | - | 1 | 1 | - | - | 2 | - | - | - | 3 | - | - | 1 | - | 2 |
| CO3 | 1 | 1 | 1 | 3 | 2 | - | - | - | - | - | - | - | 2 | 2 | 2 |
| CO4 | 1 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 3 | 3 |
| CO5 | 1 | 1 | - | 2 | - | - | - | - | - | - | - | - | 2 | 3 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | VLSI Technology | | |
| **Course Code** | ECL0733[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To understand the aspects of semiconductor device fabrication, such as: oxidation, photolithography, wet etching, metal deposition, ion implantation and annealing.**(BL2-Understand)**<br>**CO2-** To apply VLSI design circuits by keeping technological process constraints in mind**(BL3-Apply)**<br>**CO3-** To specify NMOS and CMOS design rules corresponding to 180nm, 90nm, 45 nm technologies **(BL4-Analyze)**<br>**CO4-** To evaluate the Plan a sequence of processing steps to fabricate a solid state device to meet geometric, electrical, and/or processing parameters.**(BL5-Evaluate)**<br>**CO5-** To create and design various hardware oriented circuits and Layout of CMOS Integrated**(BL6-Create)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG8(Decent work and economic growth) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | - | 1 | 1 | - | - | 2 | - | - | - | 3 | - | - | 3 | - | 2 |
| CO3 | - | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | - | 2 |
| CO4 | - | 2 | 1 | 3 | - | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO5 | - | - | - | 2 | - | - | - | - | - | - | - | - | 1 | 3 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Major Project-I | |
| **Course Code** | ECD0704[P] | |
| **Course Outcomes & Bloom's Level** | **CO1-** To increase writing skills and knowledge**(BL1-Remember)**<br>**CO2-** To enhance their mental ability**(BL2-Understand)**<br>**CO3-** To inculcate the ability to express innovative opinion and thought**(BL3-Apply)**<br>**CO4-** To have Dissertation works as skills development in student **(BL4-Analyze)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | 3 | - | 1 | - | - | 1 | 2 | 3 | - | - | - | 3 | 1 | - |
| CO2 | - | 3 | 2 | 3 | - | 3 | 1 | - | 3 | 3 | - | 2 | - | 2 | 2 |
| CO3 | - | - | 3 | 3 | 3 | - | - | 3 | 3 | 3 | 1 | 2 | - | 3 | 2 |
| CO4 | - | - | - | - | - | - | 3 | 3 | 3 | 3 | 2 | 3 | - | 3 | 3 |
| CO5 | - | - | - | - | - | - | - | - | 3 | 3 | - | 3 | - | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Evaluation of Industrial Training-III | |
| **Course Code** | ECP0704[P] | |
| **Course Outcomes & Bloom's Level** | **CO1-** Apply theoretical knowledge from coursework to solve real-world industry problems. (e.g., utilize marketing principles to develop a campaign for a local business) **(BL1-Remember)**<br>**CO2-** Demonstrate proficiency in industry-standard tools and technologies relevant to the internship field. (e.g., use design software to create graphics for a company website)**(BL2-Understand)**<br>**CO3-** Analyze and interpret data collected during the internship experience. (e.g., analyze customer feedback to improve product design)**(BL3-Apply)**<br>**CO4-** Enhance critical thinking skills by analyzing and evaluating the outcomes of assigned projects or tasks.**(BL4-Analyze)**<br>**CO5-** Compile a comprehensive report documenting the learning experiences, challenges, and achievements during the internship period.**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | 2 | 2 | - | - | - | - | - | - | 2 | - | - | - | - | 2 |
| CO2 | 1 | 2 | 3 | 3 | 2 | - | - | - | - | 2 | - | - | - | - | 3 |
| CO3 | 1 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | - | 3 |
| CO4 | 1 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | - | - | 2 |
| CO5 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Cloud Computing | | |
| **Course Code** | ECE0764[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To provide students with the fundamentals and essentials of Cloud Computing. **(BL1-Remember)**<br>**CO2-** To provide sound foundation to compare the advantages and disadvantages of various cloud computing platforms to start using cloud computing services in their real life.**(BL2-Understand)**<br>**CO3-** To apply the fundamental concepts in datacenters to understand the tradeoffs in power, efficiency and cost. Identify resource management fundamentals**(BL3-Apply)**<br>**CO4-** Program data intensive parallel applications in the cloud. i. e. Analyze the performance, scalability, and availability of the underlying cloud technologies and software**(BL4-Analyze)**<br>**CO5-** Deploy applications over commercial cloud computing infrastructures such as Amazon Web Services, Windows Azure, and Google App Engine.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | - | 1 | 2 | - | - | - | - | - | - | - | 2 | - | - |
| CO2 | - | 2 | 1 | 2 | - | - | - | - | - | - | - | - | - | 1 | - |
| CO3 | 2 | 1 | - | 3 | - | - | - | - | - | - | - | - | 2 | - | - |
| CO4 | - | 2 | 1 | 3 | 1 | - | - | - | - | - | - | - | - | 3 | - |
| CO5 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Nanoelectronics | | |
| **Course Code** | ECE0736 [T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Know the principles behind Nanoscience engineering and Nanoelectronics.**(BL1-Remember)**<br>**CO2-** To Understand the effect of particles size on mechanical, thermal, optical and electrical properties of nanomaterials.**(BL2-Understand)**<br>**CO3-** Apply the knowledge to prepare and characterize nanomaterials.**(BL3-Apply)**<br>**CO4-** Analyse the process flow required to fabricate state-of-the-art transistor technology.**(BL4-Analyze)**<br>**CO5-** To evaluate the stability and characteristic of various types of nanoelectronics devices**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | - | 1 | 1 | 3 | - | 2 | - | - | - | 3 | - | - | 1 | - | 2 |
| CO3 | - | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 2 | - | 2 |
| CO4 | - | 2 | 1 | - | - | - | - | - | - | - | - | - | 1 | 3 | 3 |
| CO5 | - | - | - | - | - | - | - | - | - | - | - | - | - | 2 | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Wireless Ad hoc Networks | | |
| **Course Code** | ECE0752[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the concepts of communication.**(BL1-Remember)**<br>**CO2-** To understand the under lying technologies of wireless networks.**(BL2-Understand)**<br>**CO3-** Apply to select the appropriate protocol for various applications**(BL3-Apply)**<br>**CO4-** Analyze energy management in ad-hoc wireless networks.**(BL4-Analyze)**<br>**CO5-** Evaluate the existing network and improve its quality of service and deficiencies in existing wireless protocols for MAC layer and Network layer, and then go onto formulate new and better protocols.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✓<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | 1 | - | 2 | - | - | - | - | - | 3 | - | 2 | - | - | - |
| CO2 | - | 2 | - | 3 | - | - | - | - | - | 3 | - | 2 | - | - | - |
| CO3 | - | 3 | - | 3 | - | 2 | - | - | - | 1 | 1 | 2 | - | - | - |
| CO4 | - | 2 | - | 1 | 2 | - | - | - | - | - | 1 | 2 | - | - | - |
| CO5 | - | 1 | - | - | 2 | - | - | - | - | - | - | 1 | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | IoT Data Analytics | | |
| **Course Code** | ECE0763 [T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Be able to understand the concepts and applications of IoT, and understand the core problems (e.g., networking, sensing) for building IoT systems **(BL1-Remember)**<br>**CO2-** Be able to understand and manage the knowledge of models and principles and compare the performance of key techniques for IoT data analytics**(BL2-Understand)**<br>**CO3-** Apply statistical methods to develop and evaluate the models. **(BL3-Apply)**<br>**CO4-** Analysis the data collected from different applications. **(BL4-Analyze)**<br>**CO5-** Evaluate statistical methods in EDA. **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✗<br>Gender ✗<br>Human Values ✗<br>Environment ✗ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 1 | - | 1 | - | 1 | - | - | - | - | - | - | - | 1 | - | 1 |
| CO2 | 2 | - | 1 | 1 | - | - | - | - | - | - | - | - | - | 1 | - |
| CO3 | - | 2 | - | 2 | - | - | - | - | - | - | - | - | 1 | - | 1 |
| CO4 | 1 | 2 | - | - | 1 | - | - | - | - | - | - | - | - | 2 | - |
| CO5 | 1 | - | 1 | - | 2 | - | - | - | - | - | - | - | - | - | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Electric Vehicle Technology | | |
| **Course Code** | ECO0701A[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** ▪CO1: Identify various types of EV's and their characteristics **(BL1-Remember)**<br>**CO2-** CO2: Describe battery basics and their types in EV and HEV**(BL2-Understand)**<br>**CO3-** CO3: Identify various types of electrical machines used in EV installation**(BL3-Apply)**<br>**CO4-** CO4: Describe Solar panel design and integration. **(BL4-Analyze)**<br>**CO5-** CO5: Identify installation and commissioning of solar panel. **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✓<br>Gender ✕<br>Human Values ✕<br>Environment ✓ | **SDG (Goals)** | SDG3(Good health and well-being)<br>SDG4(Quality education)<br>SDG8(Decent work and economic growth)<br>SDG11(Sustainable cities and economies)<br>SDG12(Responsible consuption and production)<br>SDG13(Climate action) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | -1 | 1 | 1 | 1 | - | 1 | 1 | - | - | - | 1 | 1 | 2 | 1 | 2 |
| CO2 | 1 | 1 | 1 | 1 | 1 | 1 | - | - | - | - | 1 | 1 | 3 | 2 | 2 |
| CO3 | 1 | 1 | 1 | 1 | 1 | - | 1 | - | - | - | 1 | - | 2 | 2 | 3 |
| CO4 | 1 | 1 | - | 1 | - | 1 | 1 | - | - | - | 1 | 1 | 2 | 2 | 2 |
| CO5 | 1 | 1 | - | - | - | - | - | - | - | - | 1 | 1 | 3 | 2 | 2 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Web Technologies | |
| **Course Code** | ECO0701B [T] | |
| **Course Outcomes & Bloom's Level** | **CO1-** To teach students the basics of server side scripting using PHP**(BL1-Remember)**<br>**CO2-** To explain web application development procedures**(BL2-Understand)**<br>**CO3-** To impart servlet technology for writing business logic**(BL3-Apply)**<br>**CO4-** . To facilitate students to connect to databases using JDBC**(BL4-Analyze)**<br>**CO5-** To evalute various concepts of application development using JSP**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | 2 | 2 | 2 | - | - | - | - | - | - | - | 3 | 2 | - | - |
| CO2 | 2 | 3 | 2 | 2 | 3 | - | - | - | - | - | - | 3 | 3 | - | - |
| CO3 | 2 | 3 | 2 | 2 | 3 | - | - | - | - | - | - | 3 | 3 | - | - |
| CO4 | 2 | 3 | 2 | 2 | 3 | - | - | - | - | - | - | 3 | 3 | - | - |
| CO5 | 2 | 3 | 2 | 3 | 3 | - | - | - | - | - | - | 3 | 2 | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Intellectual Property Rights | |
| **Course Code** | ECO0701C[T] | |
| **Course Outcomes & Bloom's Level** | **CO1-** To introduce fundamental aspects of intellectual property rights to students who are going to play a major role in development and management of innovative projects in industries**(BL1-Remember)**<br>**CO2-** To disseminate knowledge on patents, patent regime in India and abroad and registration aspects **(BL2-Understand)**<br>**CO3-** To apply the concept of IPR**(BL3-Apply)**<br>**CO4-** To analyze IPR. To disseminate knowledge on Design, Geographical Indication (GI), Plant Variety and Layout Design Protection and their registration aspects **(BL4-Analyze)**<br>**CO5-** Evaluating theory of probability and statistics related to IPR**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✓<br>Gender ✕<br>Human Values ✓<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | 1 | 2 | - | 3 | - | 3 | - | - | - | - | 1 |
| CO2 | - | 2 | 2 | - | 1 | 2 | - | 3 | - | 3 | - | - | - | - | 1 |
| CO3 | 2 | 2 | 1 | 2 | - | - | - | - | - | - | - | - | 1 | - | 3 |
| CO4 | 2 | 3 | 1 | 2 | - | - | - | - | - | - | - | - | 2 | 2 | 3 |
| CO5 | 2 | 2 | - | 1 | - | - | - | - | - | - | - | - | 2 | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Optical Fiber Communication | | |
| **Course Code** | ECL0825[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember basic elements of optical fiber transmission link, fiber modes, configurations and structures.**(BL1-Remember)**<br>**CO2-** To understand the different kind of losses and signal distortions in fibers.**(BL2-Understand)**<br>**CO3-** To apply various laws and theory of ray optics to understand the working of optical fiber communication system**(BL3-Apply)**<br>**CO4-** To analyze signal degradation in optical fiber.**(BL4-Analyze)**<br>**CO5-** To evaluate the performance fiber optic transmission system. **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | 1 |
| CO2 | - | 1 | 1 | - | - | 2 | - | - | - | 3 | - | - | - | 1 | - |
| CO3 | 1 | 1 | 1 | 2 | 2 | - | - | - | - | - | - | - | - | - | - |
| CO4 | 1 | 2 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | 1 |
| CO5 | 1 | 1 | - | 3 | - | - | - | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | VLSI Design | | |
| **Course Code** | ECL0826[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To learn basic techniques and fundamental concepts the basic theory of MOS transistors and Modeling of MOSFETs.**(BL1-Remember)**<br>**CO2-** To grasp the knowledge of common forms of physics involved in modeling of semiconductor device and designing the model of MOSFET devices.**(BL2-Understand)**<br>**CO3-** Apply the performance of CMOS Inverter circuits on the basis of their operation and working. Also Study the Static CMOS Logic Elements, Dynamic Logic Circuit Concepts and CMOS Dynamic Logic Families.**(BL3-Apply)**<br>**CO4-** To analyzed and evaluated the working and performance of digital and analog circuit and analyze Semiconductor Lasers, LEDs, modulators and other integrated devices. **(BL4-Analyze)**<br>**CO5-** To design various hardware oriented circuits and Layout of CMOS Integrated Circuits.**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG8(Decent work and economic growth) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | - | 1 | 1 | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO3 | - | 1 | 1 | 3 | 2 | - | - | - | - | - | - | - | - | - | - |
| CO4 | 1 | 2 | 1 | 3 | - | - | - | - | - | - | - | - | - | - | - |
| CO5 | 1 | 1 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Major Project-II | |
| **Course Code** | ECD0805[P] | |
| **Course Outcomes & Bloom's Level** | **CO1-** To increase writing skills and knowledge**(BL1-Remember)**<br>**CO2-** To enhance their mental ability**(BL2-Understand)**<br>**CO3-** To inculcate the ability to express innovative opinion and thought**(BL3-Apply)**<br>**CO4-** To have Dissertation works as skills development in student **(BL4-Analyze)** | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 3 | 3 | - | 1 | - | - | 1 | 2 | 3 | - | - | - | 3 | 1 | - |
| CO2 | - | 3 | 2 | 3 | - | 3 | 1 | - | 3 | 3 | - | 2 | - | 2 | 2 |
| CO3 | - | - | 3 | 3 | 3 | - | - | 3 | 3 | 3 | 1 | 2 | - | 3 | 2 |
| CO4 | - | - | - | - | - | - | 3 | 3 | 3 | 3 | 2 | 3 | - | 3 | 3 |
| CO5 | - | - | - | - | - | - | - | - | 3 | 3 | - | 3 | - | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Digital Image & Video Processing | | |
| **Course Code** | ECE0839[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To Remember various concept of Image and Video **(BL1-Remember)**<br>**CO2-** Understand the Basic concept of Image processing **(BL2-Understand)**<br>**CO3-** Apply the concept of Digital Image Processing **(BL3-Apply)**<br>**CO4-** Analyze the video technology from analog color TV systems to digital video systems, how video signal is sampled and filtering operations in video processing. **(BL4-Analyze)**<br>**CO5-** Implement and evaluate the image enhancement, edge detection and noise analysis **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✓<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | 1 | 2 | - | - | - | 3 | - | - | - | - | 1 |
| CO2 | - | 2 | 1 | - | 1 | 2 | - | - | - | 3 | - | - | - | - | 3 |
| CO3 | 3 | 2 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO4 | 3 | 3 | 1 | 2 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO5 | 2 | 2 | - | 1 | - | - | - | - | - | - | - | - | - | - | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Soft Computing | | |
| **Course Code** | ECE0840 [T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** Describe the role of artificial intelligence techniques in real world**(BL1-Remember)**<br>**CO2-** Apply fuzzy logic controller for electrical engineering problem**(BL2-Understand)**<br>**CO3-** Apply different neural network controller for electrical engineering problem**(BL3-Apply)**<br>**CO4-** Apply and compare performance of different optimization techniques for electrical engineering problem**(BL4-Analyze)**<br>**CO5-** Identify and select a suitable Soft Computing technology to solve the problem; construct a Solution and implement a Soft Computing solution**(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | - | - | - | - | 2 | - | - | - | 3 | - | - | - | - | - |
| CO2 | - | 1 | 1 | 3 | - | 2 | - | - | - | 3 | - | - | 3 | 2 | 2 |
| CO3 | - | 2 | 1 | 2 | 2 | - | - | - | - | - | - | - | 3 | 2 | 3 |
| CO4 | - | 2 | - | 3 | - | - | - | - | - | - | - | - | 3 | - | 3 |
| CO5 | - | - | - | - | - | - | - | - | - | - | - | - | 1 | - | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | | |
|---|---|---|---|
| **Title of the Course** | Wireless Networks | | |
| **Course Code** | ECE0843[T] | | |
| **Course Outcomes & Bloom's Level** | **CO1-** To remember the concepts of cellular and mobile communication**(BL1-Remember)**<br>**CO2-** To understand & gain the knowledge on 1G, 2G, 3G, 4G and 5G technology. **(BL2-Understand)**<br>**CO3-** To apply to select the suitable network depending on the availability and requirement**(BL3-Apply)**<br>**CO4-** To analyzing the suitable network depending on the availability and requirement. **(BL4-Analyze)**<br>**CO5-** To evaluation of various mobile communication parameter (Gain, Bandwidth etc). **(BL5-Evaluate)** | | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✓<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** | SDG1(No poverty)<br>SDG2(Zero hunger)<br>SDG4(Quality education) |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | - | 1 | - | 2 | - | - | - | - | - | 3 | - | 1 | 1 | 2 | 1 |
| CO2 | - | 2 | - | 3 | - | - | - | - | - | 3 | - | 1 | 1 | 2 | 3 |
| CO3 | - | 3 | - | 3 | - | 2 | - | - | - | 1 | 1 | 2 | 1 | 3 | 3 |
| CO4 | - | 2 | - | 1 | 2 | - | - | - | - | - | 1 | 2 | 1 | 3 | 3 |
| CO5 | - | 1 | - | - | 2 | - | - | - | - | - | - | 1 | 1 | 2 | 3 |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

# SOET-BTech(Electronics_and_Communication)

# Course mapping with relevance to the local, regional, national, and global developmental needs

| | | |
|---|---|---|
| **Title of the Course** | Industrial Electronics | |
| **Course Code** | ECE0829[T] | |
| **Course Outcomes & Bloom's Level** | **CO1-** Learn about the latest electronic devices available in industry**(BL1-Remember)**<br>**CO2-** Be able to understand the functions of power electronics circuit**(BL2-Understand)**<br>**CO3-** Apply critical thinking in solving industrial electronic problems **(BL3-Apply)**<br>**CO4-** Analyze the characteristics of MOSFET, IGBT and UJT**(BL4-Analyze)**<br>**CO5-** To evaluate the performance of various types of circuit**(BL5-Evaluate)** | |
| **Course Elements** | Skill Development ✕<br>Entrepreneurship ✕<br>Employability ✓<br>Professional Ethics ✕<br>Gender ✕<br>Human Values ✕<br>Environment ✕ | **SDG (Goals)** |

Course Articulation Matrix

| **COs** | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | 3 | 3 | - | - |
| CO2 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | 3 | 3 | 3 | - |
| CO3 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | 3 | 3 | 3 | - |
| CO4 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | 3 | 3 | 3 | - |
| CO5 | 2 | 3 | 2 | - | - | - | - | - | - | - | - | 3 | 3 | 3 | - |
| CO6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |