

SHRI G. S. INSTITUTE OF TECHNOLOGY & SCIENCE, INDORE  
Department of Humanities and Social Sciences  
**COURSE ARTICULATION MATRIX & CO-PO ATTAINMENT [CO-PO/PSO MAPPING]**  
**Academic Year: 2024-2025**

SEM B: JAN 2025 - JUNE 2025

B.TECH. II Year

Subject: Values, Humanities and Professional Ethics

**COURSE OUTCOMES:** after completion of course, the students will be able to:

|                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------|
| CO1. Explain and elaborate the social institutions through which the society and nation is governed.                   |
| CO2. Make self-exploration through understanding self, body and their needs & activities.                              |
| CO3. Apply ethical decision making and describe ethical dilemma.                                                       |
| CO4. Contextualize the ethics with engineering profession, attitude and approaches as per needs of society and values. |
| CO5. Explain and illustrate the process of Social, Political and Technological changes in-context to global changes.   |

## HU22881: Electrical Engineering

|                     | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9  | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| CO1                 |     | 1   |     |     |     | 2   | 1   | 2   |      | 1    |      | 1    | 1    | 1    |      |
| CO2                 | 1   | 1   |     |     |     | 2   |     | 3   | 1    | 2    |      | 2    | 1    | 1    | 1    |
| CO3                 | 1   |     |     | 1   |     | 2   |     | 3   | 1    | 1    |      | 1    | 2    |      | 1    |
| CO4                 | 1   | 1   | 2   | 1   |     | 3   | 2   | 3   | 1    | 1    |      | 3    | 2    | 1    | 1    |
| CO5                 | 1   | 1   | 2   |     | 1   | 2   | 3   | 2   | 2    | 1    |      | 2    | 1    | 1    | 2    |
| Average             | 1   | 1   | 2   | 1   | 1   | 2.2 | 2   | 2.6 | 1.25 | 1.2  |      | 1.8  | 1.4  | 1    | 1.25 |
| Final PO Attainment | 0.9 | 0.9 | 1.7 | 0.9 | 0.9 | 1.9 | 1.7 | 2.2 | 1.1  | 1.0  | 0.0  | 1.5  | 1.2  | 0.9  | 1.1  |

Over all Course  
Attainment = 2.6

### PROGRAM SPECIFIC OUTCOMES:

|       |                                                                                                                                                                                                                              |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PSO 1 | Demonstrate ability to apply fundamental knowledge of mathematics, science and engineering to identify, formulate, analyze, investigate, and design complex problems in the field of electrical engineering.                 |
| PSO 2 | Demonstrate ability to apply the appropriate techniques and modern engineering tools to manage and solve complex electrical engineering projects, adapt in multi-disciplinary environments, and engage in lifelong learning. |
| PSO 3 | Able to propose & implement engineering solutions in the context of the environment, society, economy, and professional ethics and have good communication skills.                                                           |

## HU25881: Electronics and Telecommunication Engineering

|                     | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9  | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| CO1                 |     | 1   |     |     |     | 2   | 1   | 2   |      | 1    |      | 1    | 2    | 1    | 2    |
| CO2                 | 1   | 1   |     |     |     | 2   |     | 3   | 1    | 2    |      | 2    | 1    |      | 1    |
| CO3                 | 1   |     |     | 1   |     | 2   |     | 3   | 1    | 1    |      | 1    |      | 1    | 1    |
| CO4                 | 1   | 1   | 2   | 1   |     | 3   | 2   | 3   | 1    | 1    |      | 3    | 1    |      | 3    |
| CO5                 | 1   | 1   | 2   |     | 1   | 2   | 3   | 2   | 2    | 1    |      | 2    | 2    | 1    | 2    |
| Average             | 1   | 1   | 2   | 1   | 1   | 2.2 | 2   | 2.6 | 1.25 | 1.2  |      | 1.8  | 1.5  | 1    | 1.8  |
| Final PO Attainment | 0.8 | 0.8 | 1.5 | 0.8 | 0.8 | 1.7 | 1.5 | 2.0 | 0.9  | 0.9  | 0.0  | 1.4  | 1.1  | 0.8  | 1.4  |

Over all Course  
Attainment = 2.3

### PROGRAM SPECIFIC OUTCOMES:

|       |                                                                                                                                                                                                                                                                                                   |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PSO 1 | Develop an ability to analyze and design Electronics and Telecommunication systems and sub systems, using the knowledge of basic sciences, and applying mathematical and engineering fundamentals, or, research knowledge to solve complex engineering problems.                                  |
| PSO 2 | Develop competency for placement, higher studies and entrepreneurship in the relevant areas of Communication, RF & microwave, Computer networks, Data analytics and VLSI technology with the aid of various state of art hardware and software tools.                                             |
| PSO 3 | To solve the practical problems of different domains in Electronics & Telecommunication Engineering as an individual as well as a team through curricular, co-curricular and extracurricular activities, maintaining professional ethics for the sustainable development of a society as a whole. |



## HU27881: Electronics and Instrumentation Engineering

|                            | PO1        | PO2        | PO3        | PO4        | PO5        | PO6        | PO7        | PO8        | PO9        | PO10       | PO11       | PO12       | PSO1       | PSO2       | PSO3       |
|----------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| CO1                        |            | 1          |            |            |            | 2          | 1          | 2          |            | 1          |            | 1          | 1          | 1          | 1          |
| CO2                        | 1          | 1          |            |            |            | 2          |            | 3          | 1          | 2          |            | 2          | 1          |            | 1          |
| CO3                        | 1          |            |            | 1          |            | 2          |            | 3          | 1          | 1          |            | 1          | 2          |            | 2          |
| CO4                        | 1          | 1          | 2          | 1          |            | 3          | 2          | 3          | 1          | 1          |            | 3          |            | 1          | 2          |
| CO5                        | 1          | 1          | 2          |            | 1          | 2          | 3          | 2          | 2          | 1          |            | 2          |            | 2          | 2          |
| Average                    | 1          | 1          | 2          | 1          | 1          | 2.2        | 2          | 2.6        | 1.25       | 1.2        |            | 1.8        | 1.3333     | 1.3333     | 1.6        |
| <b>Final PO Attainment</b> | <b>0.8</b> | <b>0.8</b> | <b>1.6</b> | <b>0.8</b> | <b>0.8</b> | <b>1.7</b> | <b>1.6</b> | <b>2.0</b> | <b>1.0</b> | <b>0.9</b> | <b>0.0</b> | <b>1.4</b> | <b>1.0</b> | <b>1.0</b> | <b>1.3</b> |

**Over all Course  
Attainment = 2.4**

### PROGRAM SPECIFIC OUTCOMES:

|       |                                                                                                                                                        |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| PSO 1 | Capable of solving complex problems in the field of Instrumentation with hands on different compatible platform.                                       |
| PSO 2 | Should be able to associate the learning from the course related to Process control and PLC/SCADA system to arrive at solution to real world problems. |
| PSO 3 | Capability to comprehend with the technological advancements in VLSI Design & semiconductor technology with modern EDA tools                           |