# CO-PO Mapping Matrix

Academic Year:-2019-20 Year/Semester:-2nd/3rd Sem.

COURSE: - Electronics Measurement & Instrumentation

Course Code: - BEETE303T

Name of Faculty: - Prof. Mohammad Ami Sultan

| CO/PO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PO 7 | PO 8 | PO 9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 | PSO 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C303T.1 | 3 | 3 | 2 | 1 | 3 | 3 | 3 | - | 2 | - | - | 2 | - | - | - |
| C303T.2 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | - | 2 | - | - | 2 | - | - | - |
| C303T.3 | 3 | 3 | 3 | 1 | 3 | 3 | 3 | - | 2 | - | - | 2 | - | - | - |
| C303T.4 | 2 | 3 | 3 | 1 | 3 | 3 | 3 | - | 2 | - | - | 2 | - | - | - |
| C303T.5 | 3 | 2 | 3 | 1 | 3 | - | - | - | 2 | - | - | 2 | - | - | - |
| C303T.6 | 3 | 2 | 3 | 1 | 3 | - | - | - | 2 | - | - | 2 | - | - | - |
| AVG | 2.83 | 2.66 | 2.83 | 1 | 3 | 2 | 2 | - | 2 | - | - | 2 | - | - | - |

Enter correlation levels 1, 2 or 3 as defined below

1: Slight (low)

2: Moderate (medium)

3: High (High)

CO-PO Mapping Justification:

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| CO1 WITH PO1 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY THE KNOWLEDGE OF ENGINEERING FUNDAMENTALS WITH THE BASIC CONCEPT AND THE BASIC TERMS IN MEASUREMENT SYSTEM |
| CO1 WITH PO2 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN IDENTIFY, FORMULATE AND ANALYZE COMPLEX ENGINEERING PROBLEMS WITH THE BASIC CONCEPT AND THE BASIC TERMS IN MEASUREMENT SYSTEM |
| CO1 WITH PO3 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE THE DESIGN SOLUTIONS FOR COMPLEX ENGINEERING PROBLEMS AND DESIGN SYSTEM COMPONENTS OR PROCESS FOR START OF THE SEMESTER IS NOT POSSIBLE THEY CAN DESIGN SOLUTIONS FOR SIMPLE ENGINEERING PROBLEMS WITH THE BASIC CONCEPT AND THE BASIC TERMS IN MEASUREMENT SYSTEM |
| CO1 WITH PO4 | LEVEL 1 | IT IS SLIGHTELY CORRELATING BECAUSE STUDENTS ARE NOT HAVING RESEARCH-BASED KNOWLEDGE TO PROVIDE VALID CONCLUSION WITH THE BASIC CONCEPT AND THE BASIC TERMS IN MEASUREMENT SYSTEM. |
| CO1 WITH PO5 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN CREAT SELECT AND APPLY APPROPRIATE TECHNIQUE AND MODERN ENGINEERING TO COMPLEX ENGINEERING ACTIVITIES WITH AN UNDERSTANDING OF THE LIMITATIONS WITH THE BASIC CONCEPT AND THE BASIC TERMS IN MEASUREMENT SYSTEM |
| CO1 WITH PO6 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY REASONING INFORMED BY THE CONTEXTUAL KNOWLEDGE TO ASSESS SOCIETAL, HEALTH, SAFETY AND CONSEQUENT RESPONSIBILITIES RELEVANT TO THE PROFESSIONAL ENGINEERING PRACTICE WITH THE BASIC CONCEPT AND THE BASIC TERMS IN MEASUREMENT SYSTEM |
| CO1 WITH PO7 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN UNDERSTAND THE IMPACT OF THE PROFESSIONAL ENGINEERING SOLUTIONS IN SOCIETAL AND ENVIRONMENTAL CONTEXT AND DEMONSTRATE THE KNOWLEDGE OF AND NEED FOR SUSTAINABLE DEVELOPMENT WITH THE BASIC CONCEPT AND THE BASIC TERMS IN MEASUREMENT SYSTEM. |
| CO1 WITH PO9 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS CAN WORK WITH THE TEAM BUT NOT INDIVIDUALLY AS THEY ARE VERY MUCH NEW IN THE ENGINEERING FIELD, SO THEY ARE IN DEVELOPING STAGED. |
| CO1 WITH PO12 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS ARE NEW IN TECHNOLOGY SO THAT THEY CAN UNDERSTAND THE NEED OF LIFE LONG LEARNING WITH RECENT TECHNOLOGIES. |
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| CO2 WITH PO1 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY THE KNOWLEDGE OF MATHEMATICS, SCIENCE & ENGINEERING FUNDAMENTALS BY DESCRIBING THE OPERATION AND DESIGN OF ELECTROMECANICAL INSTRUMENTS. |
| CO2 WITH PO2 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN IDENTIFY, FORMULATE AND ANALYZE COMPLEX ENGINEERING PROBLEMS WITH THE OPERATION AND DESIGN OF ELECTROMECANICAL INSTRUMENTS. |

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| CO2 WITH PO3 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE THE DESIGN SOLUTIONS FOR COMPLEX ENGINEERING PROBLEMS AND DESIGN SYSTEM COMPONENTS OR PROCESS IS POSSIBLE BY OPERATION AND DESIGN OF ELECTROMECANICAL INSTRUMENTS. |
| CO2 WITH PO4 | LEVEL 1 | IT IS SLIGHTELY CORRELATING BECAUSE STUDENTS ARE NOT HAVING RESEARCH-BASED KNOWLEDGE TO PROVIDE VALID CONCLUSION WITH THE BASIC KNOWLEDGE. |
| CO2 WITH PO5 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN CREAT SELECT AND APPLIES APPROPRIATE TECHNIQUE AND MODERN ENGINEERING TO COMPLEX ENGINEERING ACTIVITIES WITH AN UNDERSTANDING OF THE LIMITATIONS WITH THE OPERATION AND DESIGN OF ELECTROMECANICAL INSTRUMENTS. |
| CO2 WITH PO6 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY REASONING INFORMED BY THE CONTEXTUAL KNOWLEDGE TO ASSESS SOCIETAL, HEALTH, SAFETY AND CONSEQUENT RESPONSIBILITIES RELEVANT TO THE PROFESSIONAL ENGINEERING PRACTICE WITH THE OPERATION AND DESIGN OF ELECTROMECANICAL INSTRUMENTS. |
| CO2 WITH PO7 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN UNDERSTAND THE IMPACT OF THE PROFESSIONAL ENGINEERING SOLUTIONS IN SOCIETAL AND ENVIRONMENTAL CONTEXT AND DEMONSTRATE THE KNOWLEDGE OF AND NEED FOR SUSTAINABLE DEVELOPMENT WITH THE OPERATION AND DESIGN OF ELECTROMECANICAL INSTRUMENTS. |
| CO2 WITH PO9 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS CAN WORK WITH THE TEAM BUT NOT INDIVIDUALLY AS THEY ARE VERY MUCH NEW IN THE ENGINEERING FIELD, SO THEY ARE IN DEVELOPING STAGED. |
| CO2 WITH PO12 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS ARE NEW IN TECHNOLOGY SO THAT THEY CAN UNDERSTAND THE NEED OF LIFE LONG LEARNING WITH RECENT TECHNOLOGIES. |
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| CO3 WITH PO1 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY THE KNOWLEDGE OF ENGINEERING FUNDAMENTALS BY DESCRIBING THE D.C. & A.C. BRIDGE EQUATION & CALCULATION OF UNKNOWN VALUES OF RESISTOR, CAPACITOR AND INDUCTORS. |
| CO3 WITH PO2 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN IDENTIFY, FORMULATE AND ANALYZE COMPLEX ENGINEERING PROBLEMS WITH THE D.C. & A.C. BRIDGE EQUATION & CALCULATION OF UNKNOWN VALUES OF RESISTOR, CAPACITOR AND INDUCTORS. |
| CO3 WITH PO3 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE THE DESIGN SOLUTIONS FOR COMPLEX ENGINEERING PROBLEMS AND DESIGN SYSTEM COMPONENTS OR PROCESS IS POSSIBLE BY THE D.C. & A.C. BRIDGE EQUATION & CALCULATION OF UNKNOWN VALUES OF RESISTOR, CAPACITOR AND INDUCTORS. |
| CO3 WITH PO4 | LEVEL 1 | IT IS SLIGHTELY CORRELATING BECAUSE STUDENTS ARE NOT HAVING RESEARCH-BASED KNOWLEDGE TO PROVIDE VALID CONCLUSION WITH THE BASIC KNOWLEDGE. |
| CO3 WITH PO5 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN CREAT SELECT AND APPLIES APPROPRIATE TECHNIQUE AND MODERN ENGINEERING TO COMPLEX ENGINEERING ACTIVITIES WITH AN UNDERSTANDING OF THE LIMITATIONS WITH THE D.C. & A.C. BRIDGE EQUATION & CALCULATION OF UNKNOWN VALUES OF RESISTOR, CAPACITOR AND INDUCTORS. |
| CO3 WITH PO6 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY REASONING INFORMED BY THE CONTEXTUAL KNOWLEDGE TO ASSESS SOCIETAL, HEALTH, SAFETY AND CONSEQUENT RESPONSIBILITIES RELEVANT TO THE PROFESSIONAL ENGINEERING PRACTICE WITH THE D.C. & A.C. BRIDGE EQUATION & CALCULATION OF UNKNOWN VALUES OF RESISTOR, CAPACITOR AND INDUCTORS. |

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| CO3 WITH PO7 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN UNDERSTAND THE IMPACT OF THE PROFESSIONAL ENGINEERING SOLUTIONS IN SOCIETAL AND ENVIRONMENTAL CONTEXT AND DEMONSTRATE THE KNOWLEDGE OF AND NEED FOR SUSTAINABLE DEVELOPMENT WITH THE D.C. & A.C. BRIDGE EQUATION & CALCULATION OF UNKNOWN VALUES OF RESISTOR, CAPACITOR AND INDUCTORS. |
| CO3 WITH PO9 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS CAN WORK WITH THE TEAM BUT NOT INDIVIDUALLY AS THEY ARE VERY MUCH NEW IN THE ENGINEERING FIELD, SO THEY ARE IN DEVELOPING STAGED. |
| CO3 WITH PO12 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS ARE NEW IN TECHNOLOGY SO THAT THEY CAN UNDERSTAND THE NEED OF LIFE LONG LEARNING WITH RECENT TECHNOLOGIES. |
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| CO4 WITH PO1 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS CAN APPLY THE KNOWLEDGE OF ENGINEERING FUNDAMENTALS BY EXPLAINING THE OPERATION OF DIFFERENT TRANSDUCERS. |
| CO4 WITH PO2 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN IDENTIFY, FORMULATE AND ANALYZE COMPLEX ENGINEERING PROBLEMS WITH THE OPERATION OF DIFFERENT TRANSDUCERS. |
| CO4 WITH PO3 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE THE DESIGN SOLUTIONS FOR COMPLEX ENGINEERING PROBLEMS AND DESIGN SYSTEM COMPONENTS OR PROCESS IS POSSIBLE BY THE OPERATION OF DIFFERENT TRANSDUCERS. |
| CO4 WITH PO4 | LEVEL 1 | IT IS SLIGHTELY CORRELATING BECAUSE STUDENTS ARE NOT HAVING RESEARCH-BASED KNOWLEDGE TO PROVIDE VALID CONCLUSION WITH THE BASIC KNOWLEDGE. |
| CO4 WITH PO5 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN CREAT SELECT AND APPLIES APPROPRIATE TECHNIQUE AND MODERN ENGINEERING TO COMPLEX ENGINEERING ACTIVITIES WITH AN UNDERSTANDING OF THE LIMITATIONS WITH EXPLAINING THE OPERATION OF DIFFERENT TRANSDUCERS. |
| CO4 WITH PO6 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY REASONING INFORMED BY THE CONTEXTUAL KNOWLEDGE TO ASSESS SOCIETAL, HEALTH, SAFETY AND CONSEQUENT RESPONSIBILITIES RELEVANT TO THE PROFESSIONAL ENGINEERING PRACTICE WITH THE D.C. & A.C. BRIDGE EQUATION & CALCULATION OF UNKNOWN VALUES OF RESISTOR, CAPACITOR AND INDUCTORS. |
| CO4 WITH PO7 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN UNDERSTAND THE IMPACT OF THE PROFESSIONAL ENGINEERING SOLUTIONS IN SOCIETAL AND ENVIRONMENTAL CONTEXT AND DEMONSTRATE THE KNOWLEDGE OF AND NEED FOR SUSTAINABLE DEVELOPMENT WITH EXPLAINING THE OPERATION OF DIFFERENT TRANSDUCERS. |
| CO4 WITH PO9 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS CAN WORK WITH THE TEAM BUT NOT INDIVIDUALLY AS THEY ARE VERY MUCH NEW IN THE ENGINEERING FIELD, SO THEY ARE IN DEVELOPING STAGED. |
| CO4 WITH PO12 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS ARE NEW IN TECHNOLOGY SO THAT THEY CAN UNDERSTAND THE NEED OF LIFE LONG LEARNING WITH RECENT TECHNOLOGIES. |
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| CO5 WITH PO1 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY THE KNOWLEDGE OF ENGINEERING FUNDAMENTALS BY EXPLAINING THE OPERATION OF OSCILLOSCOPE AND THE BASIC BLOCKS IN THE DESIGN OF AN OSCILLOSCOPE. |
| CO5 WITH PO2 | LEVEL 2 | IT IS MODERATLY CORRELATING BECAUSE STUDENTS CAN IDENTIFY, FORMULATE AND ANALYZE COMPLEX ENGINEERING PROBLEMS WITH EXPLAINING THE OPERATION OF OSCILLOSCOPE AND THE BASIC BLOCKS IN THE DESIGN OF AN OSCILLOSCOPE. |
| CO5 WITH PO3 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE THE DESIGN SOLUTIONS FOR COMPLEX ENGINEERING PROBLEMS AND DESIGN SYSTEM COMPONENTS OR PROCESS IS POSSIBLE BY EXPLAINING THE OPERATION OF OSCILLOSCOPE AND THE BASIC BLOCKS IN THE DESIGN OF AN OSCILLOSCOPE. |
| CO5 WITH PO4 | LEVEL 1 | IT IS SLIGHTELY CORRELATING BECAUSE STUDENTS ARE NOT HAVING RESEARCH-BASED KNOWLEDGE TO PROVIDE VALID CONCLUSION WITH THE BASIC KNOWLEDGE. |
| CO5 WITH PO5 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN CREAT SELECT AND APPLIES APPROPRIATE TECHNIQUE AND MODERN ENGINEERING TO COMPLEX ENGINEERING ACTIVITIES WITH AN UNDERSTANDING OF THE LIMITATIONS WITH EXPLAINING THE OPERATION OF OSCILLOSCOPE AND THE BASIC BLOCKS IN THE DESIGN OF AN OSCILLOSCOPE. |
| CO5 WITH PO9 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS CAN WORK WITH THE TEAM BUT NOT INDIVIDUALLY AS THEY ARE VERY MUCH NEW IN THE ENGINEERING FIELD, SO THEY ARE IN DEVELOPING STAGED. |
| CO5 WITH PO12 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS ARE NEW IN TECHNOLOGY SO THAT THEY CAN UNDERSTAND THE NEED OF LIFE LONG LEARNING WITH RECENT TECHNOLOGIES. |
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| CO6 WITH PO1 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN APPLY THE KNOWLEDGE OF ENGINEERING FUNDAMENTALS BY EXPLAINING THE CIRCUITRY AND DESIGN OF VARIOUS FUNCTION GENERATORS, DATA ACQUISITION SYSTEM FOR A SPECIFIC APPLICATION |
| CO6 WITH PO2 | LEVEL 2 | IT IS MODERATLY CORRELATING BECAUSE STUDENTS CAN IDENTIFY, FORMULATE AND ANALYZE COMPLEX ENGINEERING PROBLEMS WITH EXPLAINING THE CIRCUITRY AND DESIGN OF VARIOUS FUNCTION GENERATORS, DATA ACQUISITION SYSTEM FOR A SPECIFIC APPLICATION. |
| CO6 WITH PO3 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE THE DESIGN SOLUTIONS FOR COMPLEX ENGINEERING PROBLEMS AND DESIGN SYSTEM COMPONENTS OR PROCESS IS POSSIBLE BY EXPLAINING THE CIRCUITRY AND DESIGN OF VARIOUS FUNCTION GENERATORS, DATA ACQUISITION SYSTEM FOR A SPECIFIC APPLICATION. |
| CO6 WITH PO4 | LEVEL 1 | IT IS SLIGHTELY CORRELATING BECAUSE STUDENTS ARE NOT HAVING RESEARCH-BASED KNOWLEDGE TO PROVIDE VALID CONCLUSION WITH THE BASIC KNOWLEDGE. |
| CO6 WITH PO5 | LEVEL 3 | IT IS HIGHLY CORRELATING BECAUSE STUDENTS CAN CREAT SELECT AND APPLY APPROPRIATE TECHNIQUE AND MODERN ENGINEERING TO COMPLEX ENGINEERING ACTIVITIES WITH AN UNDERSTANDING OF THE LIMITATIONS WITH EXPLAINING THE CIRCUITRY AND DESIGN OF VARIOUS FUNCTION GENERATORS, DATA ACQUISITION SYSTEM FOR A SPECIFIC APPLICATION |
| CO6 WITH PO9 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS CAN WORK WITH THE TEAM BUT NOT INDIVIDUALLY AS THEY ARE VERY MUCH NEW IN THE ENGINEERING FIELD, SO THEY ARE IN DEVELOPING STAGED. |
| CO6 WITH PO12 | LEVEL 2 | IT IS MODERATELY CORRELATING BECAUSE STUDENTS ARE NEW IN TECHNOLOGY SO THAT THEY CAN UNDERSTAND THE NEED OF LIFE LONG LEARNING WITH RECENT TECHNOLOGIES. |