

INDIRECT ASSESSMENT OF PROGRAMME OUTCOME(PO)

| | Programme Outcomes | Strongly Agree(5) | Agree(4) | Neutral(3) | Disagree(2) | Strongly Disagree(1) | Total no of students | Multiplied Score | | | | | Total Score | Maximum Score | Multiplication Factor | PO Attainment Score | 20% PO ATTAINMENT |
|---|---|-------------------|----------|------------|-------------|----------------------|----------------------|------------------|----|----|---|---|-------------|---------------|-----------------------|---------------------|-------------------|
| | | | | | | | | | | | | | | | | | |
| 1 | 1 Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. | 3 | 10 | 3 | 0 | 0 | 16 | 15 | 40 | 9 | 0 | 0 | 64 | 80 | 0.80 | 4.00 | 0.16 |
| 2 | 2 Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences | 2 | 9 | 5 | 0 | 0 | 16 | 10 | 36 | 15 | 0 | 0 | 61 | 80 | 0.76 | 3.81 | 0.15 |
| 3 | 3 Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. | 1 | 10 | 4 | 1 | 0 | 16 | 5 | 40 | 12 | 2 | 0 | 59 | 80 | 0.74 | 3.69 | 0.15 |
| 4 | 4 Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and | 3 | 12 | 1 | 0 | 0 | 16 | 15 | 48 | 3 | 0 | 0 | 66 | 80 | 0.83 | 4.13 | 0.17 |

| Programme Outcomes | | Strongly Agree(5) | Agree(4) | Neutral(3) | Disagree(2) | Strongly Disagree(1) | Total no of students | Multiplied Score | | | | Total Score | Maximum Score | Multiplication Factor | PO Attainment Score | 20% PO ATTAINMENT | |
|--------------------|--|-------------------|----------|------------|-------------|----------------------|----------------------|------------------|----|----|---|-------------|---------------|-----------------------|---------------------|-------------------|------|
| | synthesis of the information to provide valid conclusions. | | | | | | | | | | | | | | | | |
| 5 | 5 Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations. | 3 | 9 | 2 | 2 | 0 | 16 | 15 | 36 | 6 | 4 | 0 | 61 | 80 | 0.76 | 3.81 | 0.15 |
| 6 | 6 The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice | 2 | 11 | 3 | 0 | 0 | 16 | 10 | 44 | 9 | 0 | 0 | 63 | 80 | 0.79 | 3.94 | 0.16 |
| 7 | 7 Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. | 1 | 9 | 5 | 1 | 0 | 16 | 5 | 36 | 15 | 2 | 0 | 58 | 80 | 0.73 | 3.63 | 0.15 |
| 8 | 8 Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. | 2 | 12 | 2 | 0 | 0 | 16 | 10 | 48 | 6 | 0 | 0 | 64 | 80 | 0.80 | 4.00 | 0.16 |

| | | Programme Outcomes | Strongly Agree(5) | Agree(4) | Neutral(3) | Disagree(2) | Strongly Disagree(1) | Total no of students | Multiplied Score | | | | | Total Score | Maximum Score | Multiplication Factor | PO Attainment Score | 20% PO ATTAINMENT |
|----|----|---|-------------------|----------|------------|-------------|----------------------|----------------------|------------------|----|---|---|---|-------------|---------------|-----------------------|---------------------|-------------------|
| 9 | 9 | Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings | 3 | 11 | 2 | 0 | 0 | 16 | 15 | 44 | 6 | 0 | 0 | 65 | 80 | 0.81 | 4.06 | 0.16 |
| 10 | 10 | Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. | 2 | 11 | 3 | 0 | 0 | 16 | 10 | 44 | 9 | 0 | 0 | 63 | 80 | 0.79 | 3.94 | 0.16 |
| 11 | 11 | Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. | 2 | 11 | 2 | 1 | 0 | 16 | 10 | 44 | 6 | 2 | 0 | 62 | 80 | 0.78 | 3.88 | 0.16 |
| 12 | 12 | Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. | 0 | 14 | 2 | 0 | 0 | 16 | 0 | 56 | 6 | 0 | 0 | 62 | 80 | 0.78 | 3.88 | 0.16 |

PO AND PSO ATTAINMENT CALCULATION FOR 2020-21 BATCH

**DIRECT ATTAINMENT OF
PO AND PSO**

| | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| SET VALUES FOR PO AND PSO | 7.43 | 6.85 | 5.21 | 4.19 | 5.25 | 2.37 | 2.16 | 1.71 | 3.82 | 2.95 | 1.87 | 2.34 |
| OBTAINED VALUES FOR PO AND PSO | 5.68 | 5.34 | 4.07 | 3.06 | 4.20 | 1.73 | 1.53 | 1.15 | 2.88 | 2.07 | 1.35 | 1.67 |
| PO AND PSO ATTAINMENT | 0.76 | 0.78 | 0.78 | 0.73 | 0.80 | 0.73 | 0.71 | 0.67 | 0.75 | 0.70 | 0.72 | 0.71 |
| 80% OF PO AND PSO VALUE | 0.61 | 0.62 | 0.62 | 0.58 | 0.64 | 0.58 | 0.57 | 0.54 | 0.60 | 0.56 | 0.58 | 0.57 |

**INDEICT ASSESSMENT OF
PO AND PSO**

| | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| SET VALUES | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| VALUES OBTAINED THROUGH PROGRAMME END SURVEY | 4.00 | 3.81 | 3.69 | 4.13 | 3.81 | 3.94 | 3.63 | 4.00 | 4.06 | 3.94 | 3.88 | 3.88 |
| PO AND PSO ATTAINMENT | 0.80 | 0.76 | 0.74 | 0.83 | 0.76 | 0.79 | 0.73 | 0.80 | 0.81 | 0.79 | 0.78 | 0.78 |
| 20% OF PO AND PSO VALUE | 0.16 | 0.15 | 0.15 | 0.17 | 0.15 | 0.16 | 0.15 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 |
| FINAL PO AND PSO ATTAINMENT 2020-2021 | 0.77 | 0.78 | 0.77 | 0.75 | 0.79 | 0.74 | 0.71 | 0.70 | 0.77 | 0.72 | 0.73 | 0.73 |
| Percentage of Attainment for 2020-21 | 77.16 | 77.61 | 77.25 | 74.92 | 79.25 | 74.15 | 71.17 | 69.80 | 76.56 | 71.89 | 73.25 | 72.59 |

PO and PSO attainment for Academic Batch 2020-21

