**Proposed CO-PO of CSE 400**

Table 1: COs-POs along with Semester applied and Marks distribution

| COs | Description | PO | Assessment | Marks | Semester |
|---|---|---|---|---|---|
| CO1 | Identify a real-life problem that can be translated to an engineering and/or computing solution through design, development and validation | (l) Life-long learning | Report | 30 | 4_1 |
| CO2 | Identify outcomes and functional requirements of the proposed solution considering software and/or hardware specification and standards | (b) Problem analysis<br>(c) Design/development | Report | 10 | 4_1 |
| CO3 | Identify sub components of a complex problem, prepare timeline and appropriate budget using the project management skill | (k) Project management and finance | Report | 10 | 4_1 |
| CO4 | Identify and validate the impact of environmental considerations and the sustainability of a system/subsystem of a complete project | (g) Environment and sustainability | Report | 5 | 4_1 |
| | | | | 5 | 4_2 |
| CO5 | Assess professional, ethical, and social impacts and responsibilities of the design project | (f) The engineer and society (h) Ethics | Report | 5 | 4_1 |
| | | | | 5 | 4_2 |
| CO6 | Function effectively in a multi disciplinary team | (i) Individual work and teamwork | Reflective Journal / Version Control | 20 | 4_1 |
| | | | | 20 | 4_2 |
| CO7 | Analyze, design, build, and evaluate engineering/computing system/subsystem with given specifications and requirements | (c) Design/development<br>(d) Investigation<br>(e) Modern tool usage | Project Demo | 40 | 4_2 |

| | | | | | |
|---|---|---|---|---|---|
| CO8 | Present design project results through written technical documents and oral presentations | (j)Communication | Report, Presentation | 20 | 4_1 |
| | | | | 30 | 4_2 |

**Remarks :**

1) COs covered in 4th year 1st semester : CO1 – CO6, CO8. Total marks: 100 (for marks distribution please see table 1)
2) COs covered in 4th year 2nd semester: CO4 – CO8. Total marks: 100 (for marks distribution please see table 1)
3) Every group must achieve each and every COs as per UAP guideline for OBE system.
4) However, each may have different P's and A's of Complex Engineering Problem
5) Supervisors should help students to fulfill requirement of Complex Engineering Problems

**Recommendations**

1) Final Mark = 0.3 * (4-1) + 0.7 * (4-2) = 100
2) Department should assign one external evaluator/guide per Group in addition to the supervisor, from 4th year 1st semester. External guide will be responsible for ensuring quality of the project as per OBE guideline of Complex Engineering problem and crosscheck the deliverables of the project.
3) Every group should submit the mapping of CO_PO and P's and A's (an example of such mapping is attached) along with the report of CO1.
4) Department should set rubrics for the assessment of COs (examples are attached)