**Complex Engineering Problem & Mapping:**

**How Ps are addressed through the Project**

| **Ps** | **Attribute** | **How Ks are addressed**  **through the project** | **COs** | **POs** |
| --- | --- | --- | --- | --- |
| **P1** | Depth of  Knowledge  Requirement | Our project requires Machine learning (K2), rigorous study of existing projects(K8), Monitoring new websites(K3, K4), knowledge of web- development(K6), data collection & analysis(K5). | CO1  CO2  CO3  CO7 | PO1  PO2  PO3  PO5 |
| **P3** | Dept of Analysis  Requirement | Observe the types of news people want to see. Try to publish effective and important news. | CO4  CO7 | PO2  P12 |
| **P4** | Familiarity of  Issues | We need to Analyze & implement various  programming knowledge and skills to fix many issues and to get proper summary of news | CO7 | PO3  PO9 |
| **P7** | Interdependence | Our project involves interdependent components such as requirement analysis, designing, back-end, front-end, Model accuracy testing, database etc. | CO2  CO7 | PO2  PO10 |

**How AS are addressed through the project:**

| **PS** | **Attribute** | **Ps are addressed through the project** |
| --- | --- | --- |
| **A1** | Range of  Resources | Published news collected. Web framework is an  important resource for this project. It engages diverse  resources including various designing tools. |
| **A2** | Level of Interaction | Successful interaction between Web framework and  AI model |
| **A3** | Familiarity | Our project deals with people who don't get enough time for reading news . |

**How COs are addressed through the Project:**

| **Ps** | **CO Statement** | **Corresponding POS** |
| --- | --- | --- |
| **CO1** | Identifying a real-life problem that can be transmitted to an engineering or computing solution through design, development and validation. | PO4  PO10  PO12 |
| **CO2** | Identify, formulate and analyze a real world compels engineering problem based on requirement | PO2  PO3 |
| **CO3** | Design/Develop a working solution on a complex software-intensive system and verify and validate the solution using industrial state of the practice, that indicates a high-quality software-intensive system | PO1  PO5  PO11 |
| **CO4** | Use a modern/popular IDE to test complex software-intensive systems. | PO7 |
| **CO7** | Work as a team and fulfill individual responsibility | PO9 |

| **CO** | **CO Statements:** | **Appendix-1** | **Appendix-2** |
| --- | --- | --- | --- |
| CO1 | **Apply** the Engineering knowledge to provide a working solution on a complex engineering problem and submit a mapping. | 1 | 1/Apply |
| CO2 | **Identify, formulate, and analyze a** real-world complex engineering problem based on requirement analysis. | 2 | 1/Analyze |
| CO3 | **Design/Develop** a working solution on a complex software intensive system and verify and validate the solution using industrial state of the practice, that indicates a high-quality software-intensive system | 3 | 1/Apply |
| CO4 | **Use** a modern/popular IDE to test complex software-intensive systems. | 5 | 1/Apply |
| CO5 | **Identify** societal, health, safety, legal and cultural issues related to the project. | 6 | 1/Analyze |
| CO6 | **Practice** concepts of professional ethics, confidentiality, industrial standards. | 8 | 3/Valuing |
| CO7 | **Work** as a team and fulfill individual responsibility. | 9 | 1/Apply |
| CO8 | **Communicate** effectively through presentation and write effective reports and documentations on the project. | 10 | 1/Apply |
| CO9 | **Apply** project management principles using Version Control System, and appraise project operating cost, financial risk analysis for complex software intensive systems. | 11 | 1/Apply |
| CO10 | **Recognize** the need for, and have the preparation and ability to engage in independent and life-long learning for art of project management, distributed and collaborative software  development and risk analysis for developing complex  software-intensive systems. | 12 | 1/Apply |

| **No.** | **PO** | **Differentiating Characteristic** |
| --- | --- | --- |
| 1 | Engineering Knowledge | Breadth and depth of education and type of knowledge, both theoretical and practical |
| 2 | Problem Analysis | Complexity of analysis |
| 3 | Design/ development of solutions | Breadth and uniqueness of engineering problems i.e., the extent to which problems are original and to which solutions have previously been identified or codified |
| 4 | Investigation | Breadth and depth of investigation and experimentation |
| 5 | Modern Tool Usage | Level of understanding of the appropriateness of the tool |
| 6 | The Engineer and Society | Level of knowledge and responsibility |
| 7 | Environment and Sustainability | Type of solutions. |
| 8 | Ethics | Understanding and level of practice |
| 9 | Individual and Team work | Role in and diversity of team |
| 10 | Communication | Level of communication according to type of activities performed |
| 11 | Project Management and Finance | Level of management required for differing types of activity |
| 12 | Lifelong learning | Preparation for and depth of Continuing learning. |