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INSTITUTE OF AERONAUTICAL ENGINEERING

**(Autonomous)**

Dundigal, Hyderabad - 500 043

**Faculty Accomplishments and Student Success**

**Faculty power may be beyond question, but we are at the beginning in trying to ensure that every student feels engaged, supported, and connected throughout their career. Close faculty-student mentorship results in significant greater level of happiness and engagement later in students career.**

Faculty qualities that matter include, preparation and organization, clarity, availability, helpfulness, and concern for students and rapport with students.

**As summarized by Angelo and Cross (1993) and Pascarella and Terenzini (2005):**

* Good teachers are knowledgeable about their subject matter, are enthusiastic, encourage students to express their views through discussion, and interact with their students, both in and outside of class, (Feldman 1976; Marsh 1984; McKeachie et al. 1986; Murray 1985; Pascarella 1980).
* Students learn more from courses when they are given timely feedback that is both supportive and corrective (Cross 1987; Kulik, Kulik, and Cohen 1980; McKeachie et al. 1986; Menges and Mathis 1988).
* When students are expected to work hard, academic achievement, class attendance, and their sense of responsibility all increase (Berliner 1984; Cashin 1988; Marsh 1984).
* Because every student learns differently, individualized instruction is more effective under most circumstances (McKechnie et al. 1986).

**Methodology for Audit of**

***Faculty Accomplishments and Student Success***

***Evaluation Period – Once in 6 months (Odd/Even Semesters)***

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Parameters** | **Marks** | **Weightage** |
|  | Content Development | 100 | 0.20 |
|  | Course Content Delivery | 100 | 0.30 |
|  | New Knowledge Acquisition | 100 | 0.10 |
|  | High Impact Practices | 100 | 0.20 |
|  | Student Academic Progression | 100 | 0.10 |
|  | Student Professional and Personal Development | 100 | 0.10 |

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| --- | --- | --- | --- |
| **S.No** | **Parameters** | | **Marks** |
| **1** | **Content Development (CD)** | **Audit Weight: 0.20** | **100** |
|  | 1. Understanding of Blooms Taxonomy: 20 marks 2. Capacity in developing course content: 20 marks 3. Capacity in preparing complex engineering problems: 20 marks 4. Exercises developed towards regular laboratories: 20 marks 5. ELRV video content made available on IARE Akanksha / YouTube / National platforms: 20 marks | |  |
| **2** | **Course Content Delivery (CCD)** | **Audit Weight: 0.30** | **100** |
|  | 1. Clear communication and language proficiency: 20 marks 2. Delivery of new courses / technologies and learnt: 20 marks 3. Capacity in teaching programming courses: 20 marks 4. Number of Hackathons conducted and performance in open coding platforms: 20 marks 5. Competency building workshops conducted for faculty: 20 marks | |  |
| **3** | **New Knowledge Acquired (NKA)** | **Audit Weight: 0.10** | **100** |
|  | 1. Knowledge acquired in AI, Machine Learning, Cyber Security, Data Science and so on: 25 marks 2. Number of MOOCs completed on national platforms: 25 marks 3. Essential Skills and Technologies in DevOps, Java Full Stack, AWS, Azure and so on: 25 marks 4. Number of professional certifications completed: 25 marks | |  |
| **4** | **High Impact Practices (HIPs)** | **Audit Weight: 0.20** |  |
|  | 1. Capacity in developing innovative ideas: 20 marks 2. Innovative ideas funded by institute: 20 marks 3. Innovative ideas funded by MSME / MeITY / Neti Ayog and so on: 20 marks 4. Engineering Products developed: 20 marks 5. Start-Ups registered: 20 marks | |  |
| **5** | **Mentoring-Student Academic Progression (SAP)** | **Audit Weight: 0.10** | **100** |
|  | 1. Mentoring participation in competency building workshops: 20 marks 2. Mentoring participation and performance in career development training programs: 20 marks 3. Activity logs on open coding platforms: 20 marks 4. Admission to higher education / employment: 20 marks 5. Publications in Journals / Conferences: 20 marks | |  |
| **6** | **Mentoring-Student Professional and Personal Development (SPPD)** | **Audit Weightage: 0.10** | **100** |
|  | 1. Professional Certifications: 20 marks 2. Qualified in TCS Codevita: 20 marks 3. High Impact Practice (HIPs) Projects: 20 marks 4. Involving every student in a meaningful way in some activity or clubs: 20 marks 5. Industry Internship / Practicum:20 marks | |  |

1. **CONTENT DEVELOPMENT (CD)**
2. **Understanding of Blooms Taxonomy: 20 Marks**

(Action verbs and its usage)

Rate the faculty’s understanding and implementation of Bloom’s Taxonomy in course design, using a **5-point Likert scale** (1 = Not Addressed, 5 = Fully Implemented).

**Score calculation:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Marks** | 20 | 15 | 10 | 0 |
| **No of questions** | All 60 | 50-59 | 40-49 | < 40 |

|  |  |  |
| --- | --- | --- |
| **Bloom’s Level** | **Implementation in Course Design** | **Reviewer’s Evaluation** |
| **Remembering**  *(Recalls facts, basic concepts)* | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 |  |
| **Understanding**  *(Explains concepts, interprets information)* | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 |  |
| **Applying**  *(Uses knowledge in new situations, solves problems)* | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 |  |
| **Analyzing**  *(Breaks down information, finds relationships)* | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 |  |
| **Evaluating**  *(Judges based on criteria, justifies decisions)* | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 |  |
| **Creating**  *(Generates new ideas, designs projects, innovates)* | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 |  |

Formulate 10 questions on each of the above learning domains, satisfying the condition:

**Students should be able to (action verb) + Behavior + Resulting evidence**

1. **Capacity in developing course content: 20 Marks**

**Score calculation:**

|  |  |  |  |
| --- | --- | --- | --- |
| Marks | 20 | 15 | 10 |
| Criteria | A | B | C |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Criteria** | **Course Code** | **Course Name** | **Course Code** | **Course Name** |
|  |  |  |  |
| 1 | Lecture Notes |  | |  | |
| 2 | Power Point Presentation |  | |  | |
| 3 | Definition and Terminology |  | |  | |
| 4 | Assignments |  | |  | |
| 5 | Model question papers (2 sets) |  | |  | |
| 6 | Tutorial Question Bank |  | |  | |
| 7 | Tech talk topics |  | |  | |
| 8 | Concept video topics |  | |  | |
| 9 | Open ended experiments/ Problems /  Project Ideas |  | |  | |

A. All of the above

B. Any 7 of the above

C. Any 5 of the above

1. **Capacity in preparing complex engineering problems: 20 marks**

Complex problem solving – the capacity needed to solve new, poorly defined problems in complex solutions.

**Score calculation:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Marks | 20 | 10 | 10 | 5 |
| No. of Problems | 61-75 | 41-60 | 21-40 | 10-20 |

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| --- | --- | --- | --- | --- |
| **S.No** | **Criteria** | **Course Code** | **Course Name** | **No. of Problems Developed** |
|  |  |
| 1 | Complex problem |  |  |  |
| 2 | Difficulty decision |  |  |  |
| 3 | Uncertain Strategy |  |  |  |
| 4 | Confusing Idea |  |  |  |
| 5 | Contentious Product |  |  |  |
| 6 | Intractable change |  |  |  |

1. **Exercises developed towards regular laboratories: 20 marks**

**Score calculation:**

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| --- | --- | --- | --- | --- |
| Marks | 20 | 15 | 10 | 5 |
| No of Exercises | >= 200 | 150-199 | 100-149 | 50-99 |

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| **S.No** | **Criteria** | **Course Code** | **Course Name** | **No. of Exercises Developed** |
|  |  |
| 1 | Conceptual Understanding Exercises |  |  |  |
| 2 | Real world applications |  |  |  |
| 3 | Case Study / Design Exercises |  |  |  |
| 4 | Simulators for Exercises |  |  |  |
| 5 | Videos for lab Experiments |  |  |  |
| 6 | Virtual laboratory setup |  |  |  |
| 7 | Hand-on working models |  |  |  |
| 8 | Field visit (Expensive laboratory) |  |  |  |

1. **ELRV video content made available on IARE Akanksha / YouTube / National platforms:**

**20 marks**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Marks | | 20 | | 15 | | 10 | | 0 | |
| No of Videos | | >= 66 | | 56-65 | | 40-55 | | < 40 | |
| **S.No** | **Specifications** | | **Course Code** | | **Course Name** | | **Course Code** | | **Course Name** |
|  | |  | |  | |  |
| **No. of**  **Videos Created** | | **Duration**  **of the Video** | | **No. of**  **Videos Created** | | **Duration**  **of the Video** |
| 1 | Theory | |  | |  | |  | |  |
| 2 | Problem Solving | |  | |  | |  | |  |
| 3 | Definitions & Terminology | |  | |  | |  | |  |
| 4 | Question bank discussion | |  | |  | |  | |  |
| 5 | OBE video | |  | |  | |  | |  |

1. **COURSE CONTENT DELIVERY (CCD)**
2. **Clear communication and language proficiency: 20 marks**

* **Classroom Observations (10 marks):** Observing lectures and interactions with students
* **Student Feedback (5 marks):** Surveys and questionnaires
* **Review of Written Materials (5 marks):** Evaluating lecture notes, assignments, and other written communications

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| **S.No** | **Criteria** | **Rating on Likert Scale** |
| 1 | Clarity in Lecture Delivery | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 |
| 2 | Use of Simple and Precise Language | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 |
| 3 | Active Engagement in Class Discussions | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 |
| 4 | Use of ICT tools for Enhancing Communication | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 |
| 5 | Use of new pedagogy tools | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 |
| 6 | Early Semester Feedback | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 |
| 7 | Quality of Lecture Notes | ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 |
| **Total** | |  |

* First five criteria 2 Marks each, maximum 10
* Student Feedback and Quality of lecture notes 5 Marks each

1. **1. New courses / technologies learnt: 20 marks**

5 Marks per New Course or technology learnt, maximum 10 Marks

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| --- | --- | --- | --- | --- |
| **S.No** | **Name of the new course / Technology learnt** | **Duration** | **Date of Completion** | **Source** |
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**2. Delivery of new courses / technologies: 10 marks**

5 Marks if CO attainment is fulfilled

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| --- | --- | --- | --- |
| **S.No** | **Semester** | **Name of the new course / Technology** | **Course Attainment** |
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1. **Capacity in teaching programming courses: 20 marks**

10 Marks per programming Course taught, maximum 20 Marks

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| --- | --- | --- | --- |
| Above 80 % | | 10 Marks | |
| 70%-80% | | 6 Marks | |
| 60%-70% | | 3 Marks | |
| Below 60% | | 0 | |
| **S.No** | | **Semester** | | **Name of the**  **Programming Course** | | **Early**  **Semester Feedback** | **Impact** |
|  | |  | |  | |  |  |
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1. **Number of Hackathons/ Ideathons conducted and performance in open coding platforms:**

**20 marks**

5 Marks for hackathons organized maximum 10 Marks

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| --- | --- | --- | --- | --- |
| **S.No** | **Date** | **Name of the Hackathons / Ideathons** | **Role in the Hackathon** | **Number of Participants** |
|  |  |  |  |  |
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3 Marks for performance in open coding platforms maximum 10 Marks

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| --- | --- | --- | --- | --- |
| **S.No** | **Date** | **Name of the Platform** | **Activity Level** | **Quality of Contributions** |
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1. **Proficiency in conducting competency building workshops: 20 marks**

10 Marks for conducting competency building workshop maximum 20 Marks

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| --- | --- | --- | --- | --- | --- |
| **S.No** | **Date** | **Name of Competency building Workshops** | **Role in the Workshop** | **Number of Beneficiaries** | **Outcome** |
|  |  |  |  |  |  |
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1. **NEW KNOWLEDGE ACQUIRED (NKA)**
2. **Knowledge acquired in AI, Machine Learning, Cyber Security, Data Science and so on: 25 marks**

**Score Calculation:**

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| --- | --- | --- | --- | --- |
| Marks | 25 | 15 | 10 | 5 |
| No. of Courses | 4 | 3 | 2 | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Date and Duration** | **Name of the Course** | **Level of**  **Knowledge acquired** | **Source** |
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1. **Number of MOOCs completed on national platforms: 25 marks**

15 Marks for MOOCs completed a maximum of 25 Marks

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| --- | --- | --- | --- | --- |
| **S.No** | **Month and Year** | **No. of MOOCs**  **Completed** | **Names of the MOOCs** | **Level** |
|  |  |  |  |  |
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1. **Essential Skills and Technologies in DevOps, Java Full Stack, AWS, Azure: 25 marks**

10 Marks for one Essential Skill acquired a maximum of 25 Marks.

**Score calculation:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Marks | 25 | 15 | 10 | 5 |
| No. of Courses | 4 | 3 | 2 | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Date** | **Duration** | **Essential Skills acquired** | **Source** |
|  |  |  |  |  |
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1. **Number of professional certifications completed: 25 marks**

15 Marks for one professional certification course completed and a maximum of 25 Marks

**Score calculation:**

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| --- | --- | --- | --- | --- |
| Marks | 25 | 15 | 10 | 5 |
| No. of Certifications | 4 | 3 | 2 | 1 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Date** | **Duration** | **Name of the Course** | **Issuing Organization** |
|  |  |  |  |  |
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1. **HIGH IMPACT PRACTICES (HIPS)**
2. **Capacity in developing innovative ideas: 20 marks**

10 Marks for innovative idea developed maximum 20 Marks

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Month**  **and Year** | **Name of the Innovative Idea** | **Area of Innovation** | **TRL-Level** | **Status in**  **YUKTI Portal** |
|  |  |  |  |  |  |
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1. **Number of innovative ideas funded by institute: 20 marks**

10 Marks per innovative idea funded by Institute

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Month and Year** | **Name of the**  **Innovative idea** | **TRL -Level** | **Amount Sanctioned** | **Progress of idea** |
|  |  |  |  |  |  |
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1. **Number of innovative ideas funded by MSME / MeITY / Neti Ayog: 20 marks**

10 Marks per innovative idea funded by Institute

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Month and Year** | **Name of the Innovative idea** | **Funding Organization** | **Amount**  **Sanctioned (Rs.)** | **Progress of idea** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

1. **Products developed: 20 marks**

10 Marks for product developed maximum 20 Marks

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| --- | --- | --- | --- |
| **S.No** | **Month and Year** | **Name of the product developed** | **Status** |
|  |  |  |  |
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1. **Start-Ups initiated: 20 marks**

10 Marks for Start-Up initiated maximum 20 Marks

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| --- | --- | --- | --- |
| **S.No** | **Month and Year** | **Name of the stat-up initiated** | **Status** |
|  |  |  |  |
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1. **STUDENT ACADEMIC PROGRESSION (SAP)**

**A. Participation and performance in competency building workshops: 20 marks**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Year / Semester** | **No. of Students Participated** | **Impact on students** | | |
| **Certifications** | **Participated in National Level Competitions** | **Awards in National level Competitions** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**B. Participation and performance in career development training programs: 20 marks**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Year / Semester** | **No. of students participated** | **Impact on students** | | |
| **Placed** | **Participated in national level competitions** | **Awards in national level competitions** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

**C. Activity logs on open coding platforms: 20 marks**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No** | **Date** | **Name of the Platform** | **Activity** |
|  |  |  |  |
|  |  |  |  |

**D. Admission to higher education / employment: 20 marks**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Batch** | **No. of students admitted to HE** | | **Students Placed** |
| **National** | **International** |
|  |  |  |  |  |
|  |  |  |  |  |

**E. Publications in Journals / Conferences: 20 marks**

10 Marks for publication in Journal / Conference maximum 20 Marks

5 Marks for conference maximum 20 Marks

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| --- | --- | --- | --- |
| **S.No** | **Month and Year** | **Title of the Publication** | **Name of the Journal / Conference** |
|  |  |  |  |
|  |  |  |  |

1. **STUDENT PROFESSIONAL AND PERSONAL DEVELOPMENT (SPPD)**

**A. Professional Certifications: 20 marks**

10 Marks for one Professional Certification developed maximum 20 Marks

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Year / Semester** | **Student**  **Roll Number** | **Name of the Student** | **Name of the Professional certifications** | **Issuing Agency** |
|  |  |  |  |  |  |
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**B. Student qualified in TCS Codevita: 20 marks**

10 Marks per student Qualified in TCS Codevita maximum 20 Marks

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.No** | **Year / Semester** | **Student**  **Roll Number** | **Name of the Student** | **TCS Codevita Level** | **Date** |
|  |  |  |  |  |  |
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|  |  |  |  |  |  |

**C. Encouragement towards High Impact Practice (HIPs) Projects: 20 marks**

10 Marks per Project maximum 20 Marks

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| --- | --- | --- | --- | --- |
| **S.No** | **Name of HIPs Project** | **Role in the projects** | **No. of students** | **Impact on Student Learning** |
|  |  |  |  |  |
|  |  |  |  |  |

**D. Involving every student in a meaningful way in some activity or clubs: 20 marks**

2 Marks for one club activity maximum 20 Marks

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No** | **Name of the**  **Student Club** | **Nature**  **of the Activity** | **Number of**  **Students Participated** | **Impact on Students** |
|  |  |  |  |  |
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**E. Industry Internship / Practicum**

5 Marks for student Industry Internship maximum 20 Marks

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| --- | --- | --- | --- | --- | --- |
| **S.No** | **Duration** | **Date** | **Industry Sector** | **Organization Name** | **Number of**  **Students Completed** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |