**प्रो0 जय प्रकाश पाण्डेय**
**कुलपति**
Prof. Jai Praksh Pandey
Vice Chancellor

**डॉ0 ए0पी0जे0 अब्दुल कलाम प्राविधिक विश्वविद्यालय**
**DR. A.P.J. ABDUL KALAM TECHNICAL UNIVERSITY**
(Formerly UP Technical University)
सेक्टर-11, जानकीपुरम विस्तार योजना, लखनऊ-31 Sector-11, Jankipuram Ext. Yojna , Lucknow
दूरभाष संख्या : 0522-2772194, 2772189 Telephone :0522-2772194, 2772189

पत्र संख्याः अ.क.प्रा.वि./कुप.का./2024/13512
दिनांकः 14 मई, 2024

सेवा में,
निदेशक/प्राचार्य
डॉ0 ए0पी0जे0 अब्दुल कलाम प्राविधिक
विश्वविद्यालय से सम्बद्ध समस्त संस्थाएं

**विषयः** **Feedback on Revised SAR Draft Format for Undergraduate Engineering under Tier-I के संबंध में।**

महोदय/महोदया,

उपर्युक्त विषय के संदर्भ में अवगत कराना है कि National Board of Accreditation (NBA) द्वारा Revised Self Assessment Report (SAR) Draft Format Undergraduate Engineering Program under Tier-I के लिए तैयार किया गया है जो एतद् साथ संलग्न कर प्रेषित है। आपसे अपेक्षा है कि उक्त Revised SAR Draft Format पर यदि कोई सुझाव/Feedback हो तो NBA को ईमेल–sar.feedback@nbaind.org के माध्यम से 15 दिवस के भीतर प्रेषित करने का कष्ट करें एवं उसकी एक प्रति विश्वविद्यालय को भी ईमेल–vc@aktu.ac.in के माध्यम से प्रेषित करें।

भवदीय

**संलग्नक : यथोक्त।**

**(प्रो0 जय प्रकाश पाण्डेय)**
कुलपति

# Feedback on Revised SAR format for UG Engineering Tier I

National Board of Accreditation (NBA), being a permanent member of Washington Accord, has revised its Program Outcomes & Self-Assessment Report (SAR) for the Undergraduate Engineering Program under Tier I aligned with the revised Graduate Attributes and Professional Competencies (GAPC) Version 4.0.

- The feedbacks are to be mailed at sar.feedback@nbaind.org within 15 days
- The date of implementation of Revised SARs will be notified in due course of time.
- Click here to Download the Draft Self-Assessment Report (SAR)
  - SAR - Undergraduate Engineering Program

**Note: The Institutions at present applying for their respective programs should upload the SAR currently available at their dashboard.**

# SELF ASSESSMENT REPORT (SAR) FORMAT

# UNDERGRADUATE ENGINEERING PROGRAMS (TIER-I)



NBCC Place, 4th Floor East Tower, Bhisham Pitamah Marg,
Pragati Vihar New Delhi 110003
P: +91(11)24360620-22, 24360654
Fax: +91(11) 24360682
E-mail: membersecretary@nbaind.org
Website: www.nbaind.org
(June, 2024)

# SAR Contents

# PART A: Institutional Information

**1. Name and Address of the Institution:**

**2. Type of the Institution: (Tick the applicable choice)**

Deemed to be University ☐

University ☐

Autonomous ☐

Affiliated ☐

Any Other (Please specify*) ☐

*Provide Details: _____

**Note**:

- In case of Autonomous Institute/Deemed University, mention the year of grant of status by the authority.
- In case of University Constituent Institution, please indicate the academic autonomy status of the Institution as defined in 12th Plan guidelines of UGC. Institute should apply for Tier 1 only when fully academically autonomous.

**3. Year of Establishment of the Institution:**

**4. Ownership Status: (Tick the applicable choice)**

Central Government ☐

State Government ☐

Grant-in-Aid ☐

Self-financingTrust ☐

Any Other (Please specify*) ☐

*Provide Details: _____

**5. Name and Address of the Affiliating University (if any):**

**6. Other Academic Institutions run by Trust/Society/etc., if any:**

**Table No. A6:** List of all Institutions running under the same trust/society.

| S. N. | Name of the Institution(s) | Year of Establishment | Programs of Study | Location |
|---|---|---|---|---|
| 1 | .. | .. | .. | .. |
| ... | | | | |

## 7. Details of all the Programs being Offered by the Institution:

**Table No. A7:** Details of all the programs being offered by the Institution.

| S. N. | Program Name | Year of start | Sanctioned Intake | Increase/ decrease in intake, if any | Year of increase/ decrease | AICTE/ Approval details | Accreditation Status* | No. of times program accredited |
|---|---|---|---|---|---|---|---|---|
| 1. | | | | | | | | |
| .. | | | | | | | | |

Add rows as needed

*Write applicable one:

- Applying first time
- Granted accreditation for 2/3 years for the period (specify period)
- Granted accreditation for 5/6 years for the period (specify period)
- Not accredited (specify visit dates, year)
- Withdrawn (specify visit dates, year)
- Not eligible for accreditation
- Eligible but not applied

## 8. Programs to be Considered for Accreditation vide this Application:

**Table No. A8.1:** List of programs to be considered for accreditation

| S. N. | Name of the Department | Name of the Program |
|---|---|---|
| 1. | | |
| ... | | |

**Table No. A8.2:** Allied Department(s) to the Department of the programs considered for accreditation as above.

| S. N. | Name of the Department | Name of the Program |
|---|---|---|
| 1. | | |
| ... | | |

## 9. Total Number of Faculty Members at Various Departments:

**Table No. 9A:** No. of faculty members in various departments.

| S. N. | Name of the Department | Number of faculty members in the Department (UG and PG) | | |
|---|---|---|---|---|
| | | CAY | CAYm1 | CAYm2 |

| | | No.of Professors | No.of Associate Professors | No.of Assistant Professors | Total faculty members | No.of Professors | No.of Associate Professors | No.of Assistant Professors | Total faculty members | No.of Professors | No.of Associate Professors | No.of Assistant Professors | Total faculty members |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1** | | | | | | | | | | | | | |
| **…** | | | | | | | | | | | | | |

***Note:*** All faculty, including both regular and contractual staff (excluding part-time or hourly employees) will be considered. Contractual staff who have taught on a full-time basis for two consecutive semesters in the corresponding academic year, with or without a break between the semesters, will be considered when calculating the student-faculty ratio. However, the following will be ensured in case of contractual faculty:

1. Shall have the AICTE prescribed qualifications and experience.
2. Shall be appointed on a full-time basis and worked for consecutive two semesters with or without break between the 2 semesters during the particular academic year under consideration.
3. Should have gone through an appropriate process of selection and the records of the same shall be made available to the visiting team during the NBA visit.

A. Faculty members in the Department who do not have teaching, or practical loads, will not be counted.

B. Director/ Principal/ Dean/ other academic/administrative posts, who has teaching/ practical load in the Department will be counted.

C. Visiting faculty/adjunct faculty will not be counted.

CAY=Current Academic Year

CAYm1= Current Academic Year minus1= Current Assessment Year

CAYm2= Current Academic Year minus2=Current Assessment Year minus 1.

## 10. Total Number of Engineering Students at Various Departments:

**Table No. A.10:** No.of engineering students in various departments..

| S. N. | Name of the Department | Number of students in the Department (UG and PG) |
|---|---|---|

| | | CAY | CAYm1 | CAYm2 |
|---|---|---|---|---|
| 1 | | | | |
| .... | | | | |

**Note:**

- In case the institution is running programs other than engineering programs (UG and PG), a separate table giving similar details is to be included.

**11. Vision of the Institution:**

**12. Mission of the Institution:**

**13. Contact Information of the Head of the Institution and NBA Coordinator:**

**A. Head of the Institution**

- Name:
- Designation:
- Mobile Number:
- Email id:

**B. NBA Coordinator:**

- Name:
- Designation:
- Mobile Number:
- Email id:

## PART B: Criteria Summary

**Name of the Program: _____**

**Degree Title : _____**

| Criteria No. | Name of the Criteria | Marks/ Weightage |
|---|---|---|
| **Program Level Criteria** | | |
| **1** | Outcome-Based Curriculum | 120 |
| **2** | Outcome-Based Teaching Learning | 120 |
| **3** | Outcome-Based Assessment | 120 |
| **4** | Students' Performance | 120 |
| **5** | Faculty Information | 100 |
| **6** | Faculty Contributions | 120 |
| **7** | Facilities and Technical Support | 100 |
| **8** | Continuous Improvement | 80 |
| **Institution Level Criteria** | | |
| **9** | Student Support and Governance | 120 |
| | **Total Marks/Weights** | **1000** |

# PART B: Program Level Criteria

## Criterion 1: Outcome-based Curriculum (120)

### 1.1. Vision, Mission and Program Educational Objectives (PEOs) (35)

(Provide details of vision and mission and program educational objectives)

#### 1.1.1. State the Vision and Mission of the Institute and the Department (05)

(Vision statement typically indicates aspirations and Mission statement states the broad approach to achieve aspirations)

#### 1.1.2. State PEOs of the Programme (05)

(State the PEOs (3 to 5) of program seeking accreditation)

#### 1.1.3. Process of Defining Vision, Mission and PEOs (10)

(Articulate the process involved in defining the Vision and Mission of the department and PEOs of the program.)

#### 1.1.4. Dissemination of Vision, Mission and PEOs (05)

(Describe where (websites, curricula, posters etc.) the Vision, Mission and PEOs are published and detail the process which ensures awareness among internal and external stakeholders with effective process implementation.

Internal stakeholders may include Management, Governing Board Members, faculty, support staff, students etc. and external stakeholders may include employers, industry, alumni, funding agencies, etc.)

#### 1.1.5. Mapping of PEOs with Mission Elements (10)

(Generate a Mission of the Department–PEOs matrix with justification and rationale of the mapping.)

**Table No.1.1.5.1:** Mapping of PEOs with mission elements

| **PEO Statements** | **$M_1$** | **$M_2$** | **....** | **$M_n$** |
|---|---|---|---|---|
| PEO1: | | | | |
| PEO2: | | | | |
| PEON: | | | | |

**Note:** $M_1$, $M_2$. . . $M_n$ are distinct elements of Mission statement. Enter correlation levels as Low (L), Medium (M) and High (H). If there is no correlation, put "-" Note: Wherever the word "process" is used in this document its meaning is process formulation, notification to all the concerned, and implementation.

### 1.2. POs and PSOs (05)

(Program Specific Outcomes (PSOs) are defined by the program, with up to 3 PSOs specified)

List of POs as Defined by NBA in Annexure II.

#### 1.2.1. List of PSOs (up to 3) (05)

(Provide details of the Program Student Outcomes (PSOs) for the program currently seeking accreditation.)

### 1.3. Curriculum Structure and Features (30)

#### 1.3.1. State the Process for Developing/Revising the Program Curriculum (10)

(Describe the process that periodically documents and demonstrates how the program curriculum has evolved considering the WKs (Washington accord knowledge and attitude profile), POs (Defined by NBA) listed in Annexure)

#### 1.3.2. Curriculum Structure (10)

(Provide details of courses in terms of teaching methods and number of credits in the program curriculum)

**Table No.1.3.2.1:** Details of various courses presented in terms of teaching methods.

| Course Code | Course Titles | Teaching & Learning Scheme | | | | | |
|---|---|---|---|---|---|---|---|
| | | Classroom Instruction (CI) (in hours per semester) | | Lab Instruction (LI) (in hours per semester) | Term Work (TW) and Self Learning (SL) (TW+ SL) (in hours per semester) | Total no.of Hours per semester | Total Credits (C) (Total Hours/30 ) |
| | | L | T | P | SL | | |
| **101** | C++ | 42 | 14 | 28 | 36 | 120 | 120/30=4 |
| **…** | | | | | | | |

Legend:

*CI: Classroom Instruction (Includes different instructional/implementation strategies i.e. Lecture (L), Tutorial (T), Case method, Demonstrations, Video demonstration, Problem based learning etc. to deliver theoretical concepts)*

*LI: Laboratory Instruction (Includes experiments/practical performances /problem-based experiences in laboratory, workshop, field or other locations using different instructional/Implementation strategies)*

*TW: Term work (includes assignments, seminars, micro projects, industrial visits, any other student activities etc.)*

*SL: Self Learning, MOOCs, spoken tutorials, online educational resources etc. (If Provided in curriculum structure)*

#### 1.3.3. Components of Curriculum (05)

(Provide details of Curriculum components for all relevant Years)

**Table No.1.3.3.1:** Program curriculum grouping based on course components

| Course Component | Curriculum Content (% of total number of credits of the program) | Total number of contact hours | Total number of credits |
|---|---|---|---|
| Basic Sciences | | | |
| Basic Engineering | | | |

| | | | |
|---|---|---|---|
| Humanities and Social Sciences | | | |
| Program Core | | | |
| Program Electives | | | |
| Open Electives | | | |
| Project(s) | | | |
| Internships/Seminars | | | |
| Any other (Please specify) | | | |
| **Total number of Credits:** | | | |

Add more rows, if required

### 1.3.4. Strategies for Implementation of Education Policy (05)

(A brief explanation of the plans to implement and map activities in curriculum design with multidisciplinary and interdisciplinary programs, the establishment of an academic bank of credits system, APAAR etc)

## 1.4. Establish the Connect between the Courses and POs/PSOs (15)

(Mention the courses relevant to the POs/PSOs)

**Table No.1.4.1:** Connection of courses with POs/PSOs

| PO Statements | Courses/Projects |
|---|---|
| PO1: | |
| PO2: | |
| PON: | |

Add more rows for PSOs

## 1.5. Course Outcomes and Course Articulation Matrix (30)

### 1.5.1. Course Outcome (Semester Wise) (15)

(Provide Course outcomes (COs) for two core courses per semester from 3-7 semesters as a sample. COs should reflect on the measurable outcomes towards attaining all eleven Programme outcomes and PSOs. The maximum number of Outcomes for a course is expected to be around 6. All POs have to be covered)

**Table B.1.5.1.1**: Course outcomes

| **Semester No:** | | | |
|---|---|---|---|
| **Course Title:** | | **Course Code:** | |
| **Course Outcome No.** | **Course Outcome Statement** | | |
| | | | |
| | | | |
| | | | |

| | |
|---|---|
| | |
| | |

### 1.5.2. Course Articulation Matrix (15)

(Provide course articulation matrices for two core courses per semester from 3-7 semesters which have been provided in section 1.5.1. Select courses to demonstrate the mapping/ correlation with all POs and PSOs.)

**Table No.1.5.2:** Course articulation matrix.

**Course Name:** **Course Code:**

| Course Outcomes (COs) code & Statement | Programme Outcomes (POs) | | | | | | | | | | | Programme Specific Outcomes (PSOs) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PO-1 | PO-2 | PO-3 | PO-4 | PO-5 | PO-6 | PO-7 | PO-8 | PO-9 | PO-10 | PO-11 | PSO-1 | PSO-2 |
| CO-1 | | | | | | | | | | | | | |
| CO-2 | | | | | | | | | | | | | |
| CO-3 | | | | | | | | | | | | | |
| CO-4 | | | | | | | | | | | | | |
| CO-5 | | | | | | | | | | | | | |
| CO-6 | | | | | | | | | | | | | |

Add more columns for PSOs if any

Note:

- Enter correlation levels 1, 2 or 3 as defined below:
- 1: Slight (Low)
- 2: Moderate (Medium)
- 3: Substantial (High),
- If there is no correlation, put "-"

### 1.6. Program Articulation Matrix (05)

**Table No.1.6.1:** Program articulation matrix

| Course Code | Course Name | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C101 | | | | | | | | | | | | |
| C202 | | | | | | | | | | | | |
| C303 | | | | | | | | | | | | |
| .... | | | | | | | | | | | | |
| .... | | | | | | | | | | | | |
| C4... | | | | | | | | | | | | |

Add more columns for PSOs if any.

# Criterion 2: Outcome Based Teaching Learning (120)

### 2.1. Describe Processes Followed to Ensure Quality of Teaching & Learning (20)

(Processes may include adherence to academic calendar and instruction methods using pedagogical initiatives such as real-world examples, collaborative learning, quality of laboratory experience with regard to conducting experiments, recording observations, analysis of data etc. encouraging fast learners, assisting slow learners etc. The implementation details and impact analysis need to be documented)

### 2.2. Quality of Student Capstone Project (25)

(Quality of the capstone/major project is measured in terms of consideration to factors including, but not limited to, environment, sustainability, safety, ethics, cost, type (application, product, research, review etc.) and standards. Processes related to project identification, allotment, continuous monitoring, evaluation including demonstration of working prototypes and enhancing the relevance of projects).

Mention Implementation details including details of POs and PSOs addressed through the projects with justification

### 2.3. Internship and Industrial Training (10)

(Describe process, Duration, POs/PSOs addressed)

### 2..4. Seminar and Mini/Micro Projects (10)

(Describe process, POs/PSOs addressed)

### 2.5. Case Studies and Real-Life Examples (10)

(Type and complexity, POs/PSOs addressed)

### 2.6. MOOC/SWAYAM/NPTEL/Self Learning (10)

(Number of students registered, certification and POs/PSOs addressed)

### 2.7. Strategies for Solving Complex Engineering Problems Incorporating Sustainability Goals (20)

(Provide details of core courses (Project Based Learning, Problem Based Learning), mini projects, Integrated design projects, capstone projects, hackathon or any other activity-based learning towards solving complex engineering problems targeting relevant SDGs)

### 2.8. Initiatives for Enhancing Industry Institute Interaction (15)

(Provide details of partial delivery of courses, industry supported labs, industry offered short-term programs/training etc.,)

# Criterion 3: Outcome Based Assessment (120)

## 3.1. Attainment of Course Outcomes (25)

### 3.1.1. Describe the Assessment Tools and Processes Used to Gather the Data for the Evaluation of Course Outcome (05)

(Describe different assessment tools (semester end examinations, mid-semester tests, laboratory examinations, student portfolios etc) to measure the student learning and hence attainment of course outcomes).

### 3.1.2. Record the Attainment of Course Outcomes of all Courses with Respect to Set Attainment Levels (20)

(Program shall set Course Outcome attainment levels for each course. Measuring CO attainment through Continuous Internal Examinations (CIE) and Semester End Examination (SEE) needs to be detailed.

Target may be stated in terms of percentage of students getting more than class average marks or set by the program in each of the associated COs in the assessment instruments (midterm tests, assignments, mini projects, reports and presentations etc. as mapped with the COs.

## 3.2. Attainment of Program Outcomes and Program Specific Outcomes (25)

### 3.2.1. Describe Assessment Tools and Processes Used for Measuring the Attainment of Each Program Outcome and Program Specific Outcomes (05)

(Describe the assessment tools and processes used to gather the data for the evaluation of each of the Program Outcomes and Program Specific Outcomes indicating the frequency with which these processes are carried out. Describe the assessment processes that demonstrate the degree to which the Program Outcomes and Program Specific Outcomes are attained).

### 3.2.2. Provide Results of Evaluation of Each PO & PSO (20)

(The attainment of POs and PSOs by direct assessment based on student performance and indirect assessment based on surveys are to be presented through Program Level Course-PO&PSO matrices as indicated)

**PO and PSO Attainment:**

**Table No.3.2.2.1:** PO and PSO attainment using direct assessment tools.

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| C101 | | | | | | | | | | | |
| C102 | | | | | | | | | | | |
| … | | | | | | | | | | | |
| … | | | | | | | | | | | |
| C409 | | | | | | | | | | | |
| Direct Attainment | | | | | | | | | | | |

Add more columns as needed for PSOs if any.

Note:

1. C101, C102 are indicative courses in the first year. Similarly, C409 is final year course. First numeric digit indicates year of study and remaining two digits indicate course nos. in the respective year of study.
2. Direct attainment of a PO/PSO is determined by taking average across all courses addressing that PO/PSO.

**Table No. 3.2.2.2:** PO and PSO attainment using indirect assessment tools.

| Name of the Survey | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Survey 1** | | | | | | | | | | | |
| **Survey 2** | | | | | | | | | | | |
| **Survey 3** | | | | | | | | | | | |
| **.....** | | | | | | | | | | | |
| **Indirect Attainment** | | | | | | | | | | | |

Add more columns as needed for PSOs if any.

Note: Mention the type of survey conducted and the location of its source

1. Indirect attainment level of a PO/PSO is determined based on the student exit surveys, employer surveys, etc.

**Table No.3.2.2.3:** Overall PO and PSO attainment

| Assessment | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Direct Attainment** | | | | | | | | | | | |
| **Indirect Attainment** | | | | | | | | | | | |
| **Overall Attainment** | | | | | | | | | | | |

Add more columns as needed for PSOs if any.

### 3.3. Evaluation of Continuous Assessment: Assignments, Unit Tests, Mid-Term, etc. (10)

(Describe the process of evaluation followed during continuous assessment to maintain quality of assessment; constructive alignment of questions with COs and hence POs/PSOs. Details to be kept in course files for evaluation)

### 3.4. Evaluation of Semester End Exam (SEE) Question Paper (10)

(Describe the process of evaluation followed during semester end of assessment to maintain quality of assessment, constructive alignment of questions with COs and hence POs/PSOs. Details to be kept in course files for evaluation)

### 3.5. Evaluation of Laboratories and Workshop (Continuous and SEE) (10)

(Provide details of Rubrics used to assess learnings in laboratories and workshops linking with COs and POs/PSOs targeted. Evidence of student assessments through Rubrics to be kept in course files for evaluation)

### 3.6. Evaluation of Industrial Training/ Internship (Continuous and SEE) (10)

(Provide details of Rubrics used to assess learnings in internships/industrial trainings linking POs/PSOs targeted for attainment. Evidence of student assessments through Rubrics to be kept in course files for evaluation)

### 3.7. Evaluation of Projects (20)

(Provide details of Rubrics used to assess learnings in projects linking POs/PSOs targeted for attainment. Evidence of student assessments through Rubrics to be kept in course files for evaluation)

### 3.8. Evidence of Addressing Sustainable Development Goals (SDG) (10)

(Provide details of student work carried out to meet sustainable development goals through projects. Evidence in the form of a portfolio to be made available during visit)

**CRITERION 4: STUDENTS' PERFORMANCE (120)**

**Table No. 4A:** Admission details for the program.

| **Item (Information is to be provided cumulatively for all the shifts with explicit headings, wherever applicable)** | **CAY** | **CAYm1** | **CAYm2** | **CAYm3** | **CAYm4 (LYG)** | **CAYm5 (LYGm1)** | **CAYm6 (LYGm2)** |
|---|---|---|---|---|---|---|---|
| Sanctioned intake of the program (N) | | | | | | | |
| Total no.of students admitted in the 1st year including all supernumerary quotas* minus the no.of students, who migrated to other programs/institutions plus no. of students, who migrated to this program (N1) | | | | | | | |
| Number of students admitted in 2nd year in the same batch via lateral entry (N2) | | | | | | | |
| Separate division (N3) if any | | | | | | | |
| Total number of students admitted in the Program (N1+N2+N3) | | | | | | | |

*All students who are admitted to the program in their 1st year under supernumerary quotas.

CAY= Current Academic Year;
CAYm1= Current Academic Year Minus 1= Current Assessment Year
CAYm2= Current Academic Year Minus 2= Current Assessment Year Minus 1;
LYG= Last Year Graduate Minus 1
LYGm1= Last Year Graduate Minus 1
LYGm2 – Last Year Graduate Minus 2

**Table No. 4B:** Admission details for the program through multiple entry and exit points

| **Item** (No.of students admitted/exited through multiple entry and exit points) | **CAY** | **CAYm1** | **CAYm2** | **CAYm3** | **CAYm4 (LYG)** | **CAYm5 (LYGm1)** | **CAYm6 (LYGm2)** |
|---|---|---|---|---|---|---|---|
| No. of students admitted via multiple entry and exit points in the same batch (N4) | | | | | | | |
| No. of students exited via multiple entry and exit points in the same batch (N5) | | | | | | | |
| Total number of students admitted in the Program through multiple entry and exit points (N4-N5) | | | | | | | |

**Example**: Admission details for the program for Table No.4A.

| **Item (Information is to be provided cumulatively for all the shifts with explicit headings, wherever applicable)** | **CAY** | **CAY*m*1** | **CAY*m*2** | **CAYm3** | **CAYm4 (LYG)** | **CAYm5 (LYGm1)** | **CAYm6 (LYGm2)** |
|---|---|---|---|---|---|---|---|
| Sanctioned intake of the program (N) (as per AICTE /Competent authority) | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| Total no.of students admitted in the 1st year including all supernumerary quotas* minus the no.of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program (N1) | 120 | 121 | 116 | 120 | 120 | 120 | 120 |
| Number of students admitted in 2nd year in the same batch via lateral entry (N2) | 00 | 11 | 09 | 10 | 11 | 10 | 11 |
| Separate division (N3) if any | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| Total number of students admitted/exited in the Program (N1+N2+N3) | 120 | 132 | 125 | 130 | 131 | 130 | 131 |

**Example**: Admission details for a program through multiple entry and exit points for Table No.4B.

| **Item** (No.of students admitted/exited through multiple entry and exit points) | **CAY** | **CAY*m*1** | **CAY*m*2** | **CAYm3** | **CAYm4 (LYG)** | **CAYm5 (LYGm1)** | **CAYm6 (LYGm2)** |
|---|---|---|---|---|---|---|---|
| No. of students admitted via multiple entry and exit points in the same batch (N4) | 00 | 02 | 01 | 02 | 01 | 01 | 002 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| No. of students exited via multiple entry and exit points in the same batch (N5) | 00 | 01 | 01 | 01 | 00 | 01 | 01 |
| Total number of students admitted/exited in the Program through multiple entry and exit points (N4-N5) | 00 | 01 | 00 | 01 | 01 | 00 | 01 |

**Table No. 4C:** No. of students graduated within the stipulated period of the program.

| **Year of entry** | **Total no.of students (N1 + *N*2 + N3 (As defined above))** | Number of students who have successfully graduated in the stipulated period of study **[Total of with Backlogs+ without Backlogs]** | | | |
|---|---|---|---|---|---|
| | | **I Year** | **II Year** | **III Year** | **IV Year** |
| CAY | | | | | |
| CAYm1 | | | | | |
| CAYm2 | | | | | |
| CAYm3 | | | | | |
| CAYm4 (LYG) | | | | | |
| CAYm5 (LYGm1) | | | | | |
| CAYm6 (LYGm2) | | | | | |

**Example:** No. of students graduated within the stipulated period of the program for Table No.4C.

| **Year of entry** | **Total no.of students (N1 + *N*2 + N3 (As defined above))** | Number of students who have successfully graduated in the stipulated period of study **[Total of with Backlogs+ without Backlogs]** | | | |
|---|---|---|---|---|---|
| | | **I Year** | **II Year** | **III Year** | **IV Year** |
| CAY | **120** (120+00+00) | | | | |
| CAYm1 | **132** (121+11+00) | 128 | | | |
| CAYm2 | **125** (116+09+00) | 123 | 121 | | |
| CAYm3 | **130** (120+10+00) | 125 | 123 | 121 | |

| | | | | | |
|---|---|---|---|---|---|
| CAYm4 (LYG) | **131** (120+11+00) | 127 | 125 | 125 | 123 |
| CAYm5 (LYGm1) | **130** (120+10+00) | 125 | 123 | 122 | 121 |
| CAYm6 (LYGm2) | **131** (120+11+00) | 129 | 127 | 126 | 124 |

## 4.1. Enrolment Ratio at First Year Level (20)

**ER Points**= 20 * (Average ER/100)

**Table No.4.1.1:** Student enrolment ratio at 1st year level

| **Item (Students enrolled at the First Year Level on an average basis during the last three years starting from CAY)** | **CAY** | **CAYm1** | **CAYm2** |
|---|---|---|---|
| Sanctioned intake of the program (N) | | | |
| Total no. of students admitted in the 1st year including all supernumerary quotas* minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program (N1) | | | |
| Enrolment Ratio (ER)=N1/N | ER_1 | ER_2 | ER_3 |
| **Average ER=**(ER_1+ ER_2+ ER_3)/3 | | | |

* Supernumerary quotas.

Example: Student enrolment ratio details for Table No.4.1.1

| **Item (Students enrolled at the First Year Level on an average basis during the last three years starting from CAY)** | **CAY** | **CAYm1** | **CAYm2** |
|---|---|---|---|
| Sanctioned intake of the program (N) at 1st year level (as per AICTE/Competent authority) | 120 | 120 | 120 |
| Total no. of students admitted in the 1st year including all supernumerary quotas* minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program (N1) | 120 | 121* | 116 |
| Enrolment Ratio (ER)=N1/N | 100 | 100.83 | 96.67 |
| Average ER =(ER_1+ ER_2+ ER_3)/3 | 99.17% | | |

**Table No. 4.1.2:** The marks distribution for enrolment ratio at the 1st year level

| **Item** (Students enrolled at the First Year Level on an average basis during the previous three academic years starting from the current academic year) | **Marks** |
|---|---|
| ≥ 90% students enrolled against sanctioned intake at 1st year level | 20 |
| ≥ 80% students enrolled against sanctioned intake at 1st year level | 18 |
| ≥ 70% students enrolled against sanctioned intake at 1st year level | 16 |
| ≥ 60% students enrolled against sanctioned intake at 1st year level | 14 |
| ≥ 50% students enrolled against sanctioned intake at 1st year level | 12 |
| ≥ 40% students enrolled against sanctioned intake at 1st year level | 10 |
| ≥ 30% students enrolled against sanctioned intake at 1st year level | 08 |
| Otherwise | 00 |

## 4.2. Success Rate of the Students in the Stipulated Period of the Program (15)

Success Rate (**SR**)= (No. of students, who graduated from the program in the stipulated period of course duration)/ (No. of students admitted in the 1st year of that

batch and actually admitted in the 2nd year via lateral entry and separate division if applicable)

Average SR = Mean of SR for the past three batches.

**SR Points** = 1.5 * Average SR/10.

**Table No.4.2.1:** The success rate in the stipulated period of a program.

| Item | LYG | LYGm1 | LYGm2 |
|---|---|---|---|
| Number of students admitted in the corresponding 1st year + admitted in 2nd year via lateral entry and separate division if applicable (A) | | | |
| Number of students, who have graduated in the stipulated period (B) | | | |
| Success Rate (SR)= (B/A) * 100 | SR_1 | SR_2 | SR_3 |
| Average SR of three batches ((SR_1+ SR_2+ SR_3)/3) | | | |

## 4.3. Academic Performance in the Third Year Students of the Program (10)

**Academic Performance** = Average Academic Performance Index (API), where

API = ((Mean of 3rd Year Grade Point Average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd Year/10)) * (Number of successful students/number of students appeared in the examination)

Successful students are those who are permitted to proceed to the 4th year

**Table No. 4.3.1:** Academic performance of 3rd year students

| Academic Performance | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|
| (Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10) (X) | | | |
| Total no. of successful students (Y) | | | |
| Total no. of students appeared in the examination (Z) | | | |
| API = X* (Y/Z) | AP1 | AP2 | AP3 |
| Average API = (AP1 + AP2 + AP3)/3 | | | |

## 4.4. Academic Performance in the Second Year Students of the Program (10)

**Academic Performance** = Average Academic Performance Index (API), where

API = ((Mean of 2nd Year Grade Point Average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd Year/10)) * (Number of successful students/number of students appeared in the examination)

Successful students are those who are permitted to proceed to the 3rd year

**Table No. 4.4.1:** Academic performance of 2nd year students

| Academic Performance | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|
| (Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10) (X) | | | |
| Total no. of successful students (Y) | | | |
| Total no. of students appeared in the examination (Z) | | | |
| API = X* (Y/Z) | AP1 | AP2 | AP3 |
| Average API = (AP1 + AP2 + AP3)/3 | | | |

## 4.5. Academic Performance in the First-Year Students of the Program (10)

**Academic Performance** = Average Academic Performance Index (API), where

API = ((Mean of 1st Year Grade Point Average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 1st year/10)) * (Number of successful students/number of students appeared in the examination)

Successful students are those who are permitted to proceed to the 2nd year

**Table No. 4.5.1:** Academic performance of 1st year students.

| Academic Performance | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|
| (Mean of 1st year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 1st year/10) (X) | | | |
| Total no. of successful students (Y) | | | |
| Total no. of students appeared in the examination (Z) | | | |
| API = X* (Y/Z) | AP1 | AP2 | AP3 |
| Average API = (AP1 + AP2 + AP3)/3 | | | |

## 4.6. Placement, Higher Studies and Entrepreneurship (30)

Placement index points= 0.3 * Average placement index.

**Table No. 4.6.1:** Placement, higher studies, and entrepreneurship details.

| Item | LYG | LYGm1 | LYGm2 |
|---|---|---|---|
| Total no. of final year students (F) | | | |

| | | | |
|---|---|---|---|
| No. of students placed (X) | | | |
| No. of students admitted to higher studies (Y) | | | |
| No. of students taking up entrepreneurship (Z) | | | |
| X + Y + Z = | | | |
| Placement Index(P)= (((X + Y + Z)/F) * 100) | P_1 | P_2 | P-3 |
| Average placement index= (P_1 + P_2 + P_3)/3 | | | |

### 4.7. Professional Activities (25)

#### 4.7.1. Professional Societies/Bodies, Chapters, Clubs, and Professional Engineering Events Organized at Department Level (05)

(Provide a list of various active professional societies/bodies, chapters, and clubs that exist at the departmental level in the past 3 years, and also provide a list of events organized by various professional societies, chapters, and clubs over the past 3 year.)

**Table No. 4.7.1.1**. List of active professional societies/bodies/chapters/clubs

| S.N. | Name of the Professional Societies/Bodies, Chapters, Clubs |
|---|---|
| 1. | |
| .. | |

**Table No. 4.7.1.2**. List of events/programs organized.

| S.N. | Name of the Professional Societies/Bodies/Chapters/ Clubs | Name of the Event | National/ international level | Date of Event |
|---|---|---|---|---|
| **CAYm1** | | | | |
| 1 | | | | |
| ... | | | | |
| **CAYm2** | | | | |
| 1 | | | | |
| .. | | | | |
| **CAYm3** | | | | |
| 1 | | | | |
| .. | | | | |

#### 4.7.2. Student's Participations in Professional Events (10)

(Provide details of students who have participated in various professional events such as hackathons, codeathons, ideathons, etc., for the past 3 years)

**Table No. 4.7.2.1:** List of students participated in professional events.

| S.N. | Name of the Student | Name of the Event | State /national/ international level | Date of Event | Name of the award if any |
|---|---|---|---|---|---|
| **CAYm1** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **CAYm2** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **CAYm3** | | | | | |
| **1** | | | | | |
| **..** | | | | | |

### 4.7.3. Publication of Journals, Magazines, Newsletters, etc. (05)

(Provide details of journals, magazines, newsletters, etc., published by the department, along with the names of the editors, issue numbers, volume numbers, and a list of students involved for the past 3 years)

**Table No. 4.7.3.1:** List of students involved in journals, magazines, and newsletters, etc published by Department.

| S.N. | Name of the Journal, Magazine, Newsletter | Name of the Editor | Name of the Student & Semester | No. of Issues | Hardcopy/ Software |
|---|---|---|---|---|---|
| **CAYm1** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **CAYm2** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **CAYm3** | | | | | |
| **1** | | | | | |
| **..** | | | | | |

### 4.7.4. Student Publications (05)

(Provide details of student publications in journals, conferences, etc., for the past 3 years)

**Table No. 4.7.4.1:** List of student publications.

| S.N. | Name of the Student & Semester | Name of the Publisher | Name of the Journal/ Conference, etc. | Volume No. & Issue No. | Name of the Award if any |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **CAYm1** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **CAYm2** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **CAYm3** | | | | | |
| **1** | | | | | |
| **..** | | | | | |

## CRITERION 5: FACULTY INFORMATION (100)

**Table 5A:** Faculty details.

| S.N. | Name of the Faculty | PAN No. | APAAR faculty ID*(if any) | Highest degree | University | Area of Specialization | Date of Joining in this Institution | Designation at Time Joining in this Institution | Present Designation | The date on which is Designated as Professor/ Associate/ Professor if any | Nature of Association(Regular/Contract/ Ad hoc) | If contractual mention Full time or Part time | Currently Associated (Y/N) | Date of Leaving if any (In case Currently Associated is " No" ) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | |
| .. | | | | | | | | | | | | | | |

**Note 1:** Please provide details of the faculty in in the Department and allied Departments and cumulative information for all three academic years starting from the current academic year (CAY) in the above format.

**Note 2:** All faculty, including both regular and contractual staff (excluding part-time or hourly employees) will be considered. Contractual staff who have taught on a full-time basis for two consecutive semesters in the corresponding academic year, with or without a break between the semesters, will be considered when calculating the student-faculty ratio. However, the following will be ensured in case of contractual faculty:

A. Shall have the AICTE prescribed qualifications and experience.
B. Shall be appointed on a full-time basis and worked for consecutive two semesters with or without break between the 2 semesters during the particular academic year under consideration.
C. Should have gone through an appropriate process of selection and the records of the same shall be made available to the visiting team during the NBA visit.

**Note 3:**

A. Faculty members in the Department who do not have teaching, or practical loads, will not be counted.
B. Director/ Principal/ Dean/ other academic/administrative posts, who has teaching/ practical load in the Department will be counted.
C. Visiting faculty/adjunct faculty will not be counted.

## 5.1. Student Faculty Ratio (30)

(SFR to be calculated at Department level considering all UG and PG engineering programs in the Department; include allied department programs/clusters as well)

- No. of UG (Eng) Programs in Department including allied departments/clusters (UGn):
  - U1=1st UG program
  - $U_n$=$n^{th}$ UG program
    - **A=** No. of Students in UG 2nd year
    - **B=** No. of Students in UG 3rd year
    - **C=** No. of Students in UG 4th year
- No. of PG (Eng) Programs in Department including allied departments/clusters (PGm):
  - P1=1st PG program.
  - $P_m$=$m^{th}$ PG program
    - **G=** No. of Students in PG 1st year
    - **H=** No. of Students in PG 2nd year
- Student Faculty Ratio (**SFR**) = S/F
  - **S**= No. of students of all programs in the Department including all students of allied departments/clusters.
    - No. of students (u)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats if any (limited to 10 % of SA)
    - Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are **exempted**.
  - **F**=Total no. of regular or contractual faculty members (Full Time) in the Department including allied departments/clusters.

**Example: Table No. 5.1.1:** Calculation of no. of students admitted in the program though lateral entry/ left-over seats.

| **Let assume that sanctioned intake of the program (SA)=120** | | | | |
|---|---|---|---|---|
| **Example case** | **No. of students admitted in 1st year** | **Leftover seats in 1st year** | **No. of students admitted in 2nd year, L= a+ b**<br>**a=Lateral entry admission (maximum 10% of SA)**<br>**b=Leftover seats admitted in 2nd year** | **No. of students in the program to be considered for SFR calculation (u)= (SA + L) limited to 110 % of SA** |
| Case 1 | 120 | 00 | 00 | 120 (120+00) |
| Case 2 | 120 | 00 | 12 | 132 (120+12) |
| Case 3 | 120 | 00 | 06 | 126 (120+06) |
| Case 4 | 60 | 60 | 00 | 120 (120+00) |
| Case 5 | 75 | 45 | 06 | 120 (120+06) |
| Case 6 | 82 | 38 | 12 | 132 (120+12) |
| Case 7 | 88 | 32 | 44* | 132 (120+12) |
| Case 8 | 60 | 60 | 42* | 132 (120+12) |

***Note:** If the number of students admitted in 2nd year via lateral entry (L) is more than 10% of the sanctioned intake in the respective program, then the total number of students

considered to be admitted in the program (u) should be the sanctioned intake program plus 10% of the sanctioned intake program. Additionally, the (u) value cannot exceed 132 in the given example.

**Table No. 5.1.2:** Student-Faculty Ratio

| **Year** | **CAY** | **CAYm1** | **CAYm2** |
|---|---|---|---|
| U1. A | | | |
| U1. B | | | |
| U1. C | | | |
| UG1 | u1.1+u1.2+u1.3 | u1.1+u1.2+u1.3 | u1.1+u1.2+u1.3 |
| … | | | |
| $U_n$. A | | | |
| $U_n$. B | | | |
| $U_n$. C | | | |
| UGn | $u_n$.1+$u_n$.2+$u_n$.3 | $u_n$.1+$u_n$.2+$u_n$.3 | $u_n$.1+$u_n$.2+$u_n$.3 |
| P1. G | | | |
| P1. H | | | |
| PG1 | p1.1+p1.2 | p1.1+p1.2 | p1.1+p1.2 |
| ….. | | | |
| $P_m$. G | | | |
| $P_m$. H | | | |
| PGm | pm.1+pm.2 | pm.1+pm.2 | pm.1+pm.2 |
| Total no.of students in the Department and allied departments (S) | UG1+UG2+.. +UGn+PG1 + …PGm=S1 | UG1+UG2+.. +UGn+PG1 + …PGm=S1 | UG1+UG2+..+UGn+ PG1 + …PGm=S1 |
| No. of faculty members in the Department and allied Departments (F) | F1 | F2 | F3 |
| Student Faculty Ratio (SFR) | SFR1=S1/F1 | SFR2= S2/F2 | SFR3= S3/F3 |
| Average SFR for 3 years | Average SFR=(SFR1+SFR2+SFR3)/3 | | |

**Note:** Marks to be given proportionally from a maximum of 30 to a minimum of 10 for average SFR between 15:1 to 25:1, and zero for average SFR higher than 25:1. Marks distribution is given as below:

SFR ≤ 15 - 30 Marks
≤ 17 - 26 Marks
≤ 19 - 22 Marks
≤ 21 - 18 Marks
≤ 23 - 14 Marks
≤ 25 - 10 Marks
> 25 - 00 Marks

**Example 1: CSE Department (Cluster Programs)/Allied Departments (See Annexure-III):**

If the College offers a cluster of Undergraduate(UG) engineering programs & PG Engineering Programs in for example Computer Science and Engineering (CSE), such as UG-Engineering-CSE, UG-Engineering-CSE (Artificial Intelligence), UG-Engineering-CSE (Artificial Intelligence and Machine Learning), UG-Engineering-CSE (Cyber Security), UG-Engineering-CSE (Data Science), UG-Engineering-Information Technology, PG-Engineering-CSE within the Department or a separate Department, they will be counted as **one cluster(Department**). The SFR should be calculated as follows:

- No. of UG (Eng) Programs in Department including allied departments/clusters (UGn): 6
  1. U1=UG-Engineering-CSE
  2. U2=UG-Engineering-CSE (Artificial Intelligence)
  3. U3=UG-Engineering-CSE (Artificial Intelligence and Machine Learning)
  4. U4=UG-Engineering-CSE (Cyber Security)
  5. U5=UG-Engineering-CSE (Data Science)
  6. U6=UG-Engineering-Information Technology
- No. of PG (Eng) Programs in Department including allied departments/clusters (PGm): 1
  1. P1=PG-Engineering-CSE

**Example:** Student-Faculty Ratio for Table No. 5.1.2

| Student | CAY | CAYm1 | CAYm2 |
|---|---|---|---|
| U1. A | 132 | 132 | 131 |
| U1. B | 132 | 131 | 130 |
| U1. C | 131 | 130 | 129 |
| **U1 (UG-Engineering-CSE)** | **395** | **393** | **390** |
| U2. A | 130 | 130 | 125 |
| U2. B | 130 | 125 | 130 |
| U2. C | 126 | 130 | 123 |
| **U2 (UG-Engineering-CSE (Artificial Intelligence))** | **386** | **385** | **378** |
| U3. A | 126 | 122 | 122 |
| U3. B | 122 | 120 | 112 |
| U3. C | 120 | 122 | 119 |
| **U3 (UG-Engineering-CSE (Artificial Intelligence and Machine Learning))** | **368** | **354** | **343** |
| U4. A | 132 | 132 | 130 |
| U4. B | 132 | 130 | 130 |
| U4. C | 130 | 130 | 129 |
| **U4 (UG-Engineering-CSE (Cyber Security)** | **394** | **392** | **389** |
| U5. A | 131 | 130 | 124 |
| U5. B | 130 | 124 | 130 |
| U5. C | 124 | 130 | 121 |
| **U5 (UG-Engineering-CSE (Data science))** | **385** | **384** | **375** |

| | | | |
|---|---|---|---|
| U6. A | 132 | 131 | 130 |
| U6. B | 131 | 130 | 130 |
| U6. C | 130 | 130 | 128 |
| **U6 (UG-Engineering (Information Technology)** | 393 | 391 | 388 |
| **UGn** | **395+386+368+ 394 +385+393= 2,321** | **393+385+35+ 392+384+391 =2,299** | **390+378+ 343+ 389+375+388= 2,263** |
| P1. G | 18 | 18 | 18 |
| P1. H | 18 | 18 | 18 |
| **P1 (PG-Engineering-CSE)** | **36** | **36** | **36** |
| **PGm** | **36** | **36** | **36** |
| Total no.of students in the Department and allied departments (S) | 2,321+36=2,357 | 2,299+36=2,335 | 2,263+36=2,299 |
| No. of faculty in the Department and allied Departments (F) | 120 | 124 | 125 |
| Student Faculty Ratio (SFR) | SFR1=2,357/120= 19.64 | SFR2=2,336/124=18.84 | SFR3=2,299/125= 18.39 |
| **Average SFR for 3 years** | Average SFR=(19.64+18.84+18.39)/3=18.96 | | |

### 5.2. Faculty Qualification (25)

- Faculty qualification index (FQI) = 2.5 * [(10X +4Y)/F)] where
  - X=No.of faculty members with a Ph.D. degree or equivalent as per AICTE/UGC norms.
  - Y=No. of faculty members with an M. Tech. or ME degree or equivalent as per AICTE/UGC norms.
  - F=No. of required faculty to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section 5.1.

**Table No.5.2.1:** Faculty qualification.

| Year | X | Y | F | FQI= 2.5 * [(10X +4Y)/F)] |
|---|---|---|---|---|
| **CAY** | | | | |
| **CAYm1** | | | | |
| **CAYm2** | | | | |
| **Average Assessment** | | | | |

### 5.3. Faculty Cadre Proportion (25)

- Faculty Cadre Proportion is 1(F1): 2(F2): 6(F3)
  - F1= No. of Professors required = 1/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students as per section 5.1.
  - F2= No. of Associate Professors required = 2/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students as per section 5.1.

- F3= No. of Assistant Professors required = 6/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students as per ASFR in the section 5.1.

❖ Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

**Table No.5.3.1:** Faculty cadre proportion details.

| Year | Professors | | Associate Professors | | Assistant Professors | |
|---|---|---|---|---|---|---|
| | Required Faculty(RF1) | Available Faculty(AF1) | Required Faculty(RF2) | Available Faculty(AF2) | Required Faculty(RF3) | Available Faculty(AF3) |
| **CAY** | | | | | | |
| **CAY*m*1** | | | | | | |
| **CAYm2** | | | | | | |
| **Average Numbers** | RF1= | AF1= | RF2= | AF2= | RF3= | AF3= |

Faculty Cadre Proportion Marks= $\left[\left[\frac{AF1}{RF1}\right] + \left[\frac{AF2}{RF2} * 0.6\right] + \left[\frac{AF3}{RF3} * 0.4\right]\right] * 12.5$

❖ If AF1 = AF2= 0, then zero mark

❖ Maximum marks to be limited if it exceeds the allocated marks

- Case 1: AF1/RF1=1; AF2/RF2=1; AF3/RF3=1
  Faculty Cadre Proportion marks= (1+0.6+0.4) * 12.5=25.
- Case 2: AF1/RF1=1; AF2/RF2=4/2; AF3/RF3=8/9
  Faculty Cadre Proportion marks=(1+1.2+0.36)* 12.5=32 (limited to 25)

## 5.4. Visiting/Adjunct Faculty/ Professor of Practice (10)

(Provide details of participation and contributions in teaching, learning, or practical work by visiting, adjunct, emeritus faculty, professors of practice, etc., from industry or research organizations, as well as retired professors, during the assessment period.)

❖ Provision of visiting or adjunct faculty/visiting/emeritus/ professor of practice, etc (1)

❖ Minimum 50 hours per year of interaction with adjunct faculty from industry or research organization, retired professors, etc. (9)

❖ A minimum of 50 hours of interaction in a year will result in 3 marks for that year (3 marks * 3 years = 9 marks).

**Table 5.4.1:** List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

| S.N. | Name of the Person | Name of the Course | Designation & Organization | No. of hours handled |
|---|---|---|---|---|
| **CAYm1** | | | | |
| **1** | | | | |
| **..** | | | | |

| | | | | |
|---|---|---|---|---|
| | | | **Total no. of hours:** | |
| **CAYm2** | | | | |
| **1** | | | | |
| **..** | | | | |
| | | | **Total no. of hours:** | |
| **CAYm3** | | | | |
| **1** | | | | |
| **..** | | | | |
| | | | **Total no. of hours:** | |

### 5.5. Faculty Retention (10)

**Table No.5.5.1:** Faculty retention ratio

| **Item** | **CAYm1** | **CAYm2** | **CAYm3** |
|---|---|---|---|
| RF= No. of required faculty members as per section 5.1. | **120** | | |
| AF= No. of available faculty members in the Department | | | |
| A= No. of faculty members whose experience at the present institute is less than 1-2 year (A in AF) | | | |
| B= No. of faculty members at the present institute whose experience ranges from 1 year or more to less than 2-4 years (B in AF) | | | |
| C= No. of faculty members at the present institute whose experience ranges from 2 years or more to less than 4-6 years (C in AF) | | | |
| D= No. of faculty members at the present institute whose experience ranges from 3 years or more to less than 4 years (D in AF) | | | |
| E= No. of faculty members at the present institute with experience exceeding 4 years (E in AF) | | | |
| FR=(((A*0) +(B*1) +(C*2) +(3*D) + (E*4))/RF)*2.5 (points limited to 10) | FR_1 | FR_2 | FR_3 |
| Average FR= ((FR_1+ FR_2+ FR_3)/3) (marks limited to 10) | | | |

**Example**: Faculty retention ratio for Table No.5.5.1

| **Item** | **CAYm1** | **CAYm2** | **CAYm3** |
|---|---|---|---|
| RF= No.of required faculty members in the Department as per section 5.1. | **10** | **8** | **8** |

| | | | |
|---|---|---|---|
| AF= No.of available faculty members in the Department | **9** | **8** | **9** |
| A=No.of faculty members whose experience at the present institute is less than 1 year (A in AF) | 2 | 0 | 0 |
| B=No.of faculty members at the present institute whose experience ranges from 1 year or more to less than 2 years (B in AF) | 3 | 2 | 0 |
| C=No.of faculty members at the present institute whose experience ranges from 2 years or more to less than 3 years (C in AF) | 1 | 1 | 1 |
| D=No.of faculty members at the present institute whose experience ranges from 3 years or more to less than 4 years (D in AF) | 1 | 2 | 3 |
| E=No.of faculty members at the present institute with experience exceeding 4 years (E in AF) | 2 | 3 | 5 |
| FR=(((A*0) +(B*1) +(C*2) +(3*D) + (E*4))/RF)*2.5 (points limited to 10) | FR_1=((0+3+2+3 +8)/10)*2.5=4 | FR_2=((0+2+2+6 +12)/8)*2.5=6.88 | FR_3=((0+0+2+ 9+20)/8)*2.5=9.69 |
| Average FR= ((FR_1+ FR_2+ FR_3)/3) (marks limited to 10) | (4+6.88+9.69)/3=20.57/3=6.86 | | |

## Criterion 6: Faculty Contribution (120)

### 6.1. Professional Development Activities (60)

#### 6.1.1. Memberships in Profession Committees at National/International Levels (05)

(Provide details of faculty members, who have active recognized professional memberships and their positions and contributions to professional societies during the assessment period.)

**Table No. 6.1.1.1:** List of faculty members and their memberships.

| S.N. | Name of the Faculty | Name of the in Professional Society /Body at National and International Level | Name of the Grade/ Level/Position |
|---|---|---|---|
| 1 | | ❖<br>❖ | ❖<br>❖ |
| .. | | | |

#### 6.1.2. Faculty Participation in STTP/FDP (10)

(Provide details of faculty participated in STTP/FDP events during the assessment period. No reputation of data from the section 6.1.7)

- ❖ A faculty member can score a maximum of 5 points for participation or resource contribution in FDP/STP
- ❖ Participation in a 2 to 5-day (one week) STTP/FDP/event earns 3 points
- ❖ Participation in an STTP/FDP event lasting more than one week earns 5 points.

**Table No. 6.1.2.1:** List of faculty members participated in STTP/FDP events.

| S.N. | Name of the Faculty as Resource Person or Participant | Max. 5 per Faculty | | |
|---|---|---|---|---|
| | | CAYm1 | CAYm2 | CAYm3 |
| 1 | | | | |
| .. | | | | |
| N | | | | |
| Sum | | | | |
| RF= No. of faculty required to comply with 20:1 Student-faculty ratio as per section 5.1 | | | | |
| Assessment points=2* (Sum/0.5* RF)<br>(Points limited to 10 for each assessment year) | | A1 | A2 | A3 |
| Average assessment points over 3 years= ((A1+A2+A3)/3)<br>(Marks limited to 10 over the assessment period) | | | | |

Note: Faculty members who participated in the FDP/STP program at the parent institute will not be counted, and faculty serving as resource persons in FDP/STP programs at the parent institute will also not be counted. Only outside programs will be counted.

#### 6.1.3. Faculty Contribution in Development of SWAYAM MOOCs and other E-Content (10)

(Provide details of faculty members developed courses for various educational

initiatives, including SWAYAM MOOCs/NPTEL, e-PG-Pathshala and other e-contents during the assessment period).

**Table No. 6.1.3.1:** List of faculty members developed MOOC course.

| S.N. | Name of the Faculty | Name of the Course Developed |
|---|---|---|
| 1 | | |
| .. | | |
| N | | |

### 6.1.4. Faculty Certification of MOOCs through SWAYAM and Other Government Program (10)

(Provide details of faculty members, who have obtained certified MOOCs (Massive Open Online Courses) through platforms like SWAYAM/NPTEL and other Government programs during the assessment period

**Table No. 6.1.4.1:** List of faculty members obtained certification of MOOCs.

| S.N. | Name of the Faculty | Name of Course Passed |
|---|---|---|
| 1 | | |
| .. | | |
| N | | |

### 6.1.5. FDP/STTP Organized by Department Faculty (05)

(Provide details of no. of faculty development programs, short term training programs organized by Department for the past 3 years.)

- A minimum of 5 days per program
- Each program is allocated 2 marks, with a maximum total of 3 marks per assessment year

**Table No. 6.1.5.1:** List of FDPs/STPs organized by Department.

| S.N. | Name of the Program | Date of the Program | Duration of the Program | Name of the Speaker & Designation and Organization | No. of People Attended |
|---|---|---|---|---|---|
| **CAYm1** | | | | | |
| 1 | | | | | |
| .. | | | | | |
| **CAYm2** | | | | | |
| 1 | | | | | |
| .. | | | | | |
| **CAYm3** | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| **1** | | | | | |
| **..** | | | | | |

### 6.1.6. Faculty Support in Student Innovative Projects (10)

(Provide details of faculty supports as a mentor, facilitator, etc. in student innovation projects in various events like hackathons, codeathons, ideathons, open research, etc.)

**Table No. 6.1.6.1:** List of faculty members participated in student innovative projects

| S.N. | Name of the Faculty | Name of the Event Held | Website Link if any |
|---|---|---|---|
| **CAYm1** | | | |
| **1** | | ❖<br>❖ | |
| **..** | | | |
| **CAYm2** | | | |
| **1** | | | |
| **..** | | | |
| **CAYm3** | | | |
| **1** | | | |
| **..** | | | |

### 6.1.7. Faculty Internship/Training/Collaboration with Industry (10)

(Provide details of faculty members who have undergone internships or training provided by industry and research organizations, or a list of faculty members who are actively collaborating with industry.

The outcomes of internships, training, and collaborations including the number of programs organized for students and faculty members, the development of working models and prototypes, the publication of joint research papers, the number of funded projects received, etc. for the assessment period).

**Table No. 6.1.7.1:** Faculty internship/training/collaboration details.

| S.N. | Name of the Faculty | Name of the internship/ training/ collaboration | Name of the company & place | Outcomes of internship/ training/ collaboration |
|---|---|---|---|---|
| **1** | | ❖<br>❖ | ❖<br>❖ | ❖<br>❖ |
| **..** | | ❖ | ❖ | ❖ |

## 6.2. Research and Development Activities (60)

### 6.2.1. Academic Research (15)

(Provide details of compiled list includes research papers, available online or in hard-copy, from reputable publishers and should be list of Scopus/WoS. Only papers with the faculty member's affiliation aligned with the current institution are considered. Each entry in the comprehensive list includes details such as DOI, publisher, and month/year of publication.

No. of Ph.D students produced by Department faculty members in the Dept during the assessment period.)

**Table No. 6.2.1.1:** Faculty publications and other details

| S.N. | Item | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|---|
| 1 | No. of peer reviewed journal papers published | | | |
| 2 | No. of peer reviewed conference papers published | | | |
| 3 | No. of books/book's chapters published | | | |
| 4 | No. of citations | | | |

**Table No. 6.2.1.2:** Ph.D. details.

| S.N. | Item | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|---|
| 1 | No. of Ph.D students registered in the Department | | | |
| 2 | No. of Ph.D students produced by faculty members in the Department | | | |

### 6.2.2. Development Activities (10)

(Provide details of IPRs granted/published and working models and prototypes developed by faculty members in the last 3 years).

### 6.2.3. Sponsored Research Project (15)

(Provide details of funded research projects from the external sources. List includes Principal Investigator (PI) and Co-PI name, name of the dept where project is sanctioned, project title, funding agency, sanctioned amount, duration and sanctioned year. Also, provide the cumulative funding amount during CAYm1, CAYm2, and CAYm3). No duplicate data from the sections 6.2.4 and 6.2.5).

Amount ≥20 Lacs – 15 Marks
Amount ≥16 Lacs and < 20 lacs– 12 Marks
Amount ≥12 Lacs and < 16 lacs –9 Marks
Amount ≥ 8 Lacs and < 12 lacs –6 Marks
Amount ≥ 4 Lacs and <8 lacs –3 Marks
Amount ≥ 1 Lacs and <4 lacs –1 Mark
Amount <1 Lacs – 0 Mark.

**Table No. 6.2.3.1:** List of sponsored research projects received from external agencies.

| S.N. | PI name | Co-PI names if | Name of the Dept where | Project title* | Name of the | Duration of the | Amount (Lacs) |
|---|---|---|---|---|---|---|---|

| | | any | project is sanctioned | | Funding agency | project | |
|---|---|---|---|---|---|---|---|
| **CAYm1** | | | | | | | |
| **1** | | | | | | | |
| **..** | | | | | | | |
| **CAYm2** | | | | | | | |
| **1** | | | | | | | |
| **...** | | | | | | | |
| **CAYm3** | | | | | | | |
| **1** | | | | | | | |
| **..** | | | | | | | |
| **Total Amount (Lacs) Received for the Past 3 Years** | | | | | | | |

Note: Only sponsored research projects work will be considered. Infrastructure-based projects will be considered here.

### 6.2.4. Consultancy Work (15)

(Provide details of consultancy projects from the external sources. List includes Principal Investigator (PI) and Co-PI name, name of the dept where project is sanctioned, project title, funding agency, sanctioned amount, duration and sanctioned year. Also, provide the cumulative funding amount during CAYm1, CAYm2, and CAYm3). No duplicate data from the sections 6.2.3 and 6.2.5.)

Amount ≥20 Lacs – 15 Marks
Amount ≥16 Lacs and < 20 lacs–12 Marks
Amount ≥12 Lacs and < 16 lacs –9 Marks
Amount ≥ 8 Lacs and < 12 lacs –6 Marks
Amount ≥ 4 Lacs and <8 lacs –3 Marks
Amount ≥ 1 Lacs and <4 lacs –1 Mark
Amount <1 Lacs – 0 Mark.

**Table No. 6.2.4.1:** List of consultancy projects received from external agencies

| S.N. | PI name | Co-PI names if any | Name of the Dept where project is sanctioned | Project title* | Name of the Funding agency | Duration of the project | Amount (Lacs) |
|---|---|---|---|---|---|---|---|
| **CAYm1** | | | | | | | |
| **1** | | | | | | | |
| **..** | | | | | | | |
| **CAYm2** | | | | | | | |
| **1** | | | | | | | |
| **...** | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **CAYm3** | | | | | | | |
| **1** | | | | | | | |
| **..** | | | | | | | |
| **Total amount (Lacs) received for the past 3 years** | | | | | | | |

Note: Only consultancy projects work will be considered. Infrastructure-based projects will be considered here.

### 6.2.5. Institution Seed Money or Internal Research Grant to its Teachers for Research Work (05)

(Provide details of faculty members received Institution seed money grants to its teachers for research work. Also, provide the cumulative funding amount during CAYm1, CAYm2, and CAYm3). No duplicate data from the sections 6.2.3 and 6.2.4.

The outcomes of the project are no.of publications, no. of working models/prototypes, no. of Ph.D students produced, no. of M.E students produced, amount generated, etc.)

Amount $\geq$ 8 Lacs – 5 Marks
Amount $\geq$ 6 Lacs and < 8 lacs–4 Marks
Amount $\geq$ 4 Lacs and < 6 lacs –3 Marks
Amount $\geq$ 2 Lacs and < 4 lacs –2 Marks
Amount $\geq$ 1 Lacs and < 2 lacs –1 Mark
Amount < 1 Lacs – 0 Mark.

**Table No. 6.2.5.1:** List of faculty members received seed money or internal research grant from the institution.

| S.N. | PI name | Project title | Duration of the project | Amount (Lacs) | Outcomes of the project |
|---|---|---|---|---|---|
| **CAYm1** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **CAYm2** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **CAYm3** | | | | | |
| **1** | | | | | |
| **..** | | | | | |
| **Total amount (Lacs) received for the past 3 years** | | | | | |

## Criterion 7: Facilities and Technical Support (100)

### 7.1. Adequate and Well-Equipped Laboratories, and Technical Manpower (40)

(Provide details of various laboratories at the department level. Also, please provide a list of technical support staff appointed by the College for the Department and their qualifications)

**Table No.7.1.1:** List of laboratories and technical manpower

| S. N. | Name of the Laboratory | No. of students per setup (Batch Size) | Name of the Important equipment | Weekly utilization status (all the courses for which the lab is utilized) | Technical Manpower support | | |
|---|---|---|---|---|---|---|---|
| | | | | | Name of the technical staff | Designation | Qualification |
| 1. | | | | | | | |
| .. | | | | | | | |
| N. | | | | | | | |

### 7.2. Additional Facilities Created for Improving the Quality of Learning Experience in Laboratories (20)

(Provide details of various additional facilities provided by the department to enhance the quality of learning in laboratories. No duplicate data from the section the sections 7.1 and 7.5)

**Table No.7.2.1:** List of additional facilities

| S. N. | Name of the Facility | Details | Reason(s) for creating facility | Utilization | Relevance to POs |
|---|---|---|---|---|---|
| 1. | | | | | |
| ... | | | | | |
| N. | | | | | |

### 7.3. Laboratories Maintenance and Overall Ambiance (10)

(Provide details of overall laboratories maintenance and overall ambiance in the Department)

### 7.4. Safety Measures in Laboratories (10)

(Provide details of various safety measures deployed in each laboratory within the Department.)

**Table No. 7.4.1:** List of various safety measures in laboratories

| S.N. | Name of the Laboratory | Safety measures |
|---|---|---|
| 1. | | |

| | | |
|---|---|---|
| **...** | | |
| **N.** | | |

### 7.5. Project Laboratory/Research Laboratory /Centre of Excellence (20)

(Provide details of project laboratories like major/minor/research/CoE/innovation laboratories, etc. No duplicate data from the sections 7.1 and 7.2.)

## Criterion 8: Continuous Improvement (80)

### 8. 1. Actions Taken Based on the Results of Evaluation of the COs, POs and PSOs (40)

#### 8.1.1. Actions Taken Based on the Results of Evaluation of the COs (20)

(Identify the areas of weaknesses in the program based on the analysis of evaluation of COs attainment levels. Measures identified and implemented to improve COs attainment levels for the assessment year (CAYm1) including curriculum intervention, pedagogical initiatives, support system improvements, etc.)

#### 8.1.2. Actions Taken Based on the Results of Evaluation of the POs/PSOs (20)

(Identify the areas of weaknesses in the program based on the analysis of evaluation of POs/PSOs attainment levels. Measures identified and implemented during two years to improve POs attainment levels including curriculum intervention, pedagogical initiatives, support system improvements, etc.)

### 8.2. Academic Audit and Actions Taken thereof during the Period of Assessment (15)

(Academic audit system/process and its implementation in relation to continuous improvement)

### 8.3. Improvement in SFR, Faculty Qualification/Contribution (15)

(Assessment is based on improvement in qualification, SFR and publications.)

**Table No.8.3:** Improvement in SFR, qualification and publications

| Item | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|
| Student Faculty Ratio (SFR) value | | | |
| No.of Ph.D holders | | | |
| No.of publications in peer reviewed journals | | | |
| No.of publications in conferences | | | |

### 8.4. Improvement in Academic/Research Infrastructure (10)

(Provide details of improvement in academic/research facility during the assessment period)

## Criterion 9: Student Support System and Governance (120)

### 9.1. Mentoring System (05)

(Type of mentoring: Professional guidance/career advancement/course work specific/laboratory specific/all-round development. Number of faculty mentors: Number of students per mentor: Frequency of meeting:

The institution should report the details of the mentoring system, its implementation and effectiveness through impact study.)

### 9.2. Feedback Analysis (10)

#### 9.2.1. Feedback on Teaching and Learning Process and Corrective Measures Taken, if any (05)

(Provide details of the feedback collection process on TLP, average percentage of students who participate; Specify the feedback analysis process; Basis of reward/ corrective measures during the assessment period. Specify the number of corrective measures taken. Exhibit the details of analysis done)

#### 9.2.2. Feedback on Facilities (05)

(Provide details of the feedback collection process on facilities, its analysis and corrective actions taken during the assessment period.)

### 9.3. Training and Placement Support (15)

(Provide details of the training and placement supports, calendar of scheduled trainings, career guidance and effectiveness of career guidance, industry interaction exclusively for pre-placement/ internship/placement/counseling and support for higher study etc.)

### 9.4. Entrepreneurship Activities (10)

(Describe the initiatives, facilities created/utilization and their effectiveness in encouraging students for innovation, entrepreneurship, incubation and start-up. Also provide the list of beneficiaries)

### 9.5. Governance and Transparency (25)

#### 9.5.1. Availability of the Institutional Strategic Plan and its Effective Implementation and Monitoring (10)

(Provide details of the strategic plan of institute and its implementations)

#### 9.5.2. Governing Body, Administrative Setup, Functions of Various Bodies, Service Rules, Recruitment procedures and Promotion Policies (10)

(Provide details of statutory and non-statutory administrative committees like the Governing body, Academic Council/ Senate, Grievance redressal Committee, IQAC, Anti-Raging committee, Disciplinary committee in place; Internal Complaints Committee (Women harassment mitigation committee) etc., provide the approval of these committees along with details of members, the meetings details (meeting notice, agenda, minutes, action taken etc. The service rules, policies and procedures; year of publication are to be listed.)

### 9.5.3. Transparency (05)

(Information on policies, rules, processes, delegation of financial powers and dissemination of this information to stakeholders is to be made available on the web site. Agendas and minutes of Governing body and academic council/senate are also to be uploaded on the website of the institute. Also state the extent of awareness among the stakeholders.)

## 9.6. Budget Allocation, Utilization, and Public Accounting at Institute Level (12)

(Summary of financial year's budget and actual expenditure incurred for the institution exclusively in the three financial years: CFYm1, CFYm2 and CFYm3. If the management is running multiple institutions, exclusive audited records for the visiting institute are to be provided)

CFY=Current Financial Year
CFYm1=Current Financial Year minus 1,
CFYm2=Current Financial Year minus 2,
CFYm3=Current Financial Year minus 3

**For CFYm1**

**Table No. 9.6.1:** Summary of budget and actual expenditure incurred at Institute level for CFY m1

| **Total Income in the CFYm1** | | | | **Actual expenditure in the CFYm1** | **Total Students in the institute** | **Expenditure per student in CFYm1:** |
|---|---|---|---|---|---|---|
| **Fee** | **Govt.** | **Grant(s)** | **Other Sources (specify)** | | | |
| | | | | | | |

Note:

- Similar tables are to be prepared for CFYm2 & CFYm3.
- Audited statements for CFYm2, and CFYm3 are to be uploaded on the website

**Table No. 9.6.2:** Budget and actual expenditure incurred at Institute level.

| **Items** | **Budgeted in CFY** | **Actual expenses in CFY (till …)** | **Budgeted in CFYm1** | **Actual Expenses in CFYm1** | **Budgeted in CFYm2** | **Actual Expenses in CFYm2** | **Budgeted in CFYm3** | **Actual Expenses in CFYm3** |
|---|---|---|---|---|---|---|---|---|
| Infrastructure Built-Up | | | | | | | | |
| Library | | | | | | | | |
| Laboratory equipment | | | | | | | | |
| Teaching and non-teaching staff salary | | | | | | | | |
| Outreach Programs | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| R&D | | | | | | | | |
| Training, Placement and Industry linkage | | | | | | | | |
| SDGs | | | | | | | | |
| Entrepreneurship | | | | | | | | |
| Others*, pl. specify | | | | | | | | |
| **Total amount** | | | | | | | | |

* Items to be mentioned.

### 9.7. Program Specific Budget Allocation, Utilization (08)

Total budget at program level: CFYm1, CFYm2 & CFYm3
CFY=Current Financial Year
CFYm1=Current Financial Year Minus 1
CFYm2=Current Financial Year minus 2
CFYm3=Current Financial Year minus 3

**For CFYm1 (Similar table to be prepared for CFYm2 and CFYm3)**

**Table No. 9.7.1:** Summary of budget and actual expenditure incurred at Program level

| **Total Budget in CFYm1:** | | **Actual expenditure in CFYm1:** | | **Total No. of students in CFYm1:** |
|---|---|---|---|---|
| **Demanded** | **Actual Allocated** | **Actual Expenditure** | **% Spent** | **Expenditure per student** |
| | | | | |

Note: Justification and process of budgeting to be listed.

**Table No. 9.7.2:** Budget and actual expenditure incurred at Program level.

| **Items** | **Budgeted in CFY** | **Actual expenses in CFY (till …)** | **Budgeted in CFY*m*1** | **Actual Expenses in CFY*m*1** | **Budgeted in CFY*m*2** | **Actual Expenses in CFY*m*2** | **Budgeted in CFY*m*3** | **Actual Expenses in CFY*m*3** |
|---|---|---|---|---|---|---|---|---|
| Laboratory equipment | | | | | | | | |
| Software | | | | | | | | |
| SDGs | | | | | | | | |
| Support for faculty development | | | | | | | | |
| R & D | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Industrial Training, Industry expert, Internship | | | | | | | | |
| Miscellaneous expenses * | | | | | | | | |
| Total amount | | | | | | | | |

* Items to be mentioned.

### 9.8. Library and Utilization (10)

(Effective availability/purchase records and utilization of facilities/equipment etc. to be documented and demonstrated.)

#### 9.8.1. Quality of Learning Resources (Hard/Soft) (05)

(Provide details of available learning resources, including e-resources (Books and journals), as well as information on the accessibility of these resources to students. Additionally, describe the support provided to students for self-learning activities.)

#### 9.8.2. Internet (05)

(Provide details of Internet service provider, available Internet bandwidth, Wi-Fi availability, and Internet access in labs, classrooms, library, and offices of all departments, along with details about security provisions.)

### 9.9. Initiatives and Implementation Sustainable Development Goals (SDGs) (10)

(Provide details of initiatives taken towards implementation of SDG specifically on green energy, waste management, preserving water, net zero, quality education. Provide evidences on implementation (projects assigned, R & D activities, entrepreneurial activities, outreach Programs etc.))

### 9.10. Innovative Educational Initiatives and Implementation (10)

(Provide details of initiatives taken towards mobility of students, implementation of academic bank of credits and support for holistic education including human values, multidisciplinary /interdisciplinary curriculum/programs, initiatives on Indian Knowledge System, Contribution towards and implementation of teaching in Indian language, etc. Policies on inclusivity and equity and their implementation. Action plan and its implementation for slow learners.)

### 9.11. Outreach Activities (05)

(Provide details of outreach activities such as community service, Unnat Bharat Abhiyan, social internship and society connect activities undertaken by the students and their achievements.)

## Annexure I: Knowledge and Attitude Profile

**WK1:** A systematic, theory-based understanding of the natural sciences applicable to the discipline and awareness of relevant social sciences.

**WK2:** Conceptually-based mathematics, numerical analysis, data analysis, statistics and formal aspects of computer and information science to support detailed analysis and modelling applicable to the discipline.

**WK3:** A systematic, theory-based formulation of engineering fundamentals required in the engineering discipline.

**WK4:** Engineering specialist knowledge that provides theoretical frameworks and bodies of knowledge for the accepted practice areas in the engineering discipline; much is at the forefront of the discipline.

**WK5:** Knowledge, including efficient resource use, environmental impacts, whole-life cost, re-use of resources, net zero carbon, and similar concepts, that supports engineering design and operations in a practice area.

**WK6:** Knowledge of engineering practice (technology) in the practice areas in the engineering discipline.

**WK7:** Knowledge of the role of engineering in society and identified issues in engineering practice in the discipline, such as the professional responsibility of an engineer to public safety and sustainable development.

**WK8:** Engagement with selected knowledge in the current research literature of the discipline, awareness of the power of critical thinking and creative approaches to evaluate emerging issues.

**WK9:** Ethics, inclusive behavior and conduct. Knowledge of professional ethics, responsibilities, and norms of engineering practice. Awareness of the need for diversity by reason of ethnicity, gender, age, physical ability etc. with mutual understanding and respect, and of inclusive attitudes.

## Annexure-II: Program Outcomes (POs)

**PO1: Engineering Knowledge:** Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

**PO2: Problem Analysis:** Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development. (WK1 to WK4)

**PO3: Design/Development of Solutions:** Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)

**PO4: Conduct Investigations of Complex Problems:** Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

**PO5: Engineering Tool Usage:** Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

**PO6: The Engineer and The World:** Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

**PO7: Ethics:** Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

**PO8: Individual and Collaborative Team work:** Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

**PO9: Communication:** Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

**PO10: Project Management and Finance:** Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.

**PO11: Life-Long Learning:** Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

**Program Specific Outcomes (PSOs) up to 2-3.**

# Declaration

The head of the institution needs to make a declaration as per the format given below:

I undertake that, the institution is well aware about the provisions in the NBA's accreditation manual concerned for this application, rules, regulations, notifications and NBA expert visit guidelines in force as on date and the institute shall fully abide by them.

It is submitted that information provided in this Self-Assessment Report is factually correct. I understand and agree that an appropriate disciplinary action against the Institute will be initiated by the NBA in case any false statement/information is observed during pre-visit, visit, post visit and subsequent to grant of accreditation.

**Date:** **Signature & Name**

**Place:** **Head of the Institution with seal**

**Annexure-III:**

1. **Computer Science and Engineering Allied Departments/Cluster (Corresponding Program(s) of Engineering / Technology)-Major programs:**
   - Computer Science and Engineering
   - 3-D Animation & Graphics
   - Advanced Computer Application
   - Computer and Communication Engineering
   - Computer Engineering
   - Computer Engineering & Application,
   - Computer Networking,
   - Computer Science,
   - Computer Science & Technology,
   - Computer Science and Information Technology,
   - Computer Science and Systems Engineering,
   - Computer Technology,
   - Computing in Computing
   - Computing in Multimedia
   - Computing in Software
   - Electrical and Computer Engineering
   - Electronics and Computer Science
   - Electronics and Computer Engineering
   - Mathematics and Computing,
   - Software Engineering
   - Computer Science and Business Systems
   - Artificial intelligence
   - Artificial intelligence and machine learning
   - Computer Science and Engineering & Business Systems
   - Computer Science and Engineering (Artificial Intelligence and Machine Learning)
   - Computer Science and Engineering (Internet of Things and Cyber Security including Block Chain Technology)
   - Computer Science and Engineering with Specialization in Bioinformatics
   - Computer Science and Engineering with Specialization in Information Security
   - Computer Science and Engineering with Specialization in Cloud Computing
   - Computer Science and Engineering with Specialization in Big Data Analytics
   - Computer Science and Engineering with Specialization in Block Chain Technology

- Computer Science and Engineering with Specialization in Data Science
- Computer Science and Engineering with Specialization in IoT
- Computer Science and Engineering with Specialization in Computer networking
- Computer Science and Engineering with Specialization in Cyber Security
- Computer Science and Engineering with Specialization in Information Technology
- Computer Science and Engineering with Specialization in Gaming Technology
- Information Technology
- Information and Communication Technology
- Information Engineering
- Information Science and Engineering
- Information Science and Technology
- Information Technology and Engineering
- Data Science or Applied Data Science
- Animation and Gamification
- Any other as approved by AICTE as per AICTE Gazette notification 28 April,2017 and its amendment

**2. Electronic and Commination Engineering Allied Departments/ Cluster(Corresponding Program(s) of Engineering/Technology)- Major programs:**

- Electronic Engineering
- Digital Techniques for Design & Planning
- Electrical
- Electronics and Power
- Electronics and Control Systems
- Electronics and Electrical Engineering,
- Electronic Engineering,
- Electronic Science and Engineering,
- Electronics, Electronics & Computer Science,
- Electronics and Computer Engineering,
- Electronics and Control Systems,
- Electronics and Electrical Engineering,
- Electronics and Power Engineering,
- Electronics Design Technology,
- Electronics Engineering,
- Electronics System Engineering,
- Optics and Optoelectronics,
- Power Electronics,
- Power Electronics Engineering,

- Radio Physics and Electronics
- Electronics and Communication Engineering
- Advanced Communication and Information System,
- Advanced Electronics and Communication Engineering,
- Applied Electronics and Communications,
- Communication Engineering,
- Electronics & Communication Engineering (Industry Integrated),
- Electronics & Telecommunication Engineering,
- Electronics & Telecommunication Engineering
- Electronics and Communication Engineering (Microwaves),
- Electronics and Communication Engineering (Sandwich),
- Electronics Communication and Instrumentation Engineering,
- Electronics Communication and Instrumentation Engineering,
- Telecommunication Engineering.
- Instrumentation Engineering
- Applied Electronics & Instrumentation Engineering,
- Automation and Robotics,
- Automation Engineering,
- Biomedical Instrumentation,
- Electrical Engineering Industrial Control,
- Electrical Instrumentation and Control Engineering,
- Electronic Instrumentation and Control Engineering,
- Electronics & Instrumentation Engineering,
- Applied Electronics & Instrumentation Engineering,
- Electronics & Instrumentation Engineering
- Electronics Instrumentation and Control Engineering
- Power Electronics and Instrumentation Engineering
- Electronics and Control Systems
- Electronics Communication and Instrumentation Engineering
- Electronics Instrumentation and Control Engineering
- Instrument Technology
- Instrumentation
- Instrumentation & Control Engineering
- Instrumentation & Electronics
- Instrumentation Technology
- Power Electronics and Instrumentation Engineering,
- Robotics and Automation
- Mechatronics Engineering
- Mechatronics,
- Mechatronics Engineering (Sandwich)
- Medical Electronics
- Medical Electronics Engineering,

- Medical Lab Technology,
- Electronics and Biomedical Engineering
- IOT
- AI
- ML
- Data Science
- Electronics and Instrumentation
- Smart Electronics
- Embedded and Real Time system
- Nano Electronics
- Bio Electronics
- Nano-Bio Electronics
- Any other as approved by AICTE as per AICTE Gazette notification 28 April,2017 and its amendment

**3. Electrical Engineering Allied Departments/Cluster (Corresponding Program (s) of Engineering / Technology)-Major programs:**

- Electrical Engineering
- Electrical and Computer Engineering,
- Electrical and Electronics (Power System)
- Electrical and electronics Engineering,
- Electrical and electronics Engineering (Sandwich),
- Electrical and Instrumentation Engineering
- Electrical and Mechanical Engineering,
- Electrical and Power Engineering,
- Electrical Engineering (Electronics & Power),
- Electrical Engineering Industrial Control,
- Electrical Engineering Industrial Control,
- Electrical Instrumentation and Control Engineering,
- Electrical,
- Electronics and Power,
- Electronics & Computer Science,
- Electronics and Electrical Engineering,
- Electronics and Power Engineering
- Electric Vehicle
- Smart Grid and Energy system
- Energy System Engineering
- Any other as approved by AICTE as per AICTE Gazette notification 28 April, 2017 and its amendment

**4. Mechanical Engineering Allied Departments/Cluster (Corresponding Programs (s) of Engineering / Technology)-Major programs:**

- Mechanical Engineering
- Electrical and Mechanical Engineering
- Mechanical Engineering (industry integrated)
- Mechanical Engineering (Sandwich Pattern)
- Mechanical Engineering (Repair and Maintenance)
- Power Engineering
- Production Engineering
- Industrial and Production Engineering
- Machine Engineering
- Manufacturing Engineering
- Manufacturing Engineering & Automation
- Manufacturing Engineering and Technology
- Manufacturing Process & Automation Engineering
- Manufacturing Science and Engineering
- Manufacturing Technology
- Precision Manufacturing
- Production and Industrial Engineering
- Production Engineering (Sandwich)
- Tool engineering
- Automobile Engineering
- Automobile Maintenance Engineering
- Automotive technology
- Mechanical engineering (Auto)
- Mechanical Engineering Automobile
- Industrial Engineering
- Industrial and Production Engineering
- Industrial Engineering and Management
- Mechanical and Automation Engineering
- Mechatronics
- Mechatronics Engineering
- Mechatronics Engineering (sandwich)
- Robotics
- Additive Manufacturing
- Renewable Energy
- Mechanical Engineering (ENERGY SYSTEM AND MANAGEMENT)
- Automation and Robotics
- Any other as approved by AICTE as per AICTE Gazette notification 28 April,2017 and its amendment