**NATIONAL BOARD OF ACCREDITATION**

**Data Capturing Points of the Program Applied for NBA Accreditation– Tier I/II UG (Engineering) Institute Programs**

**PART-A: Profile of the Institute**

Name of the Program Applied for: Electronics & Communication Engineering

**A1: Name of the Institute: -** **KMEA ENGINEERING COLLEGE**

Year of Establishment : **2002** Location of the Institute: **Kerala**

**A2: Institute Address: -** **KUZHIVELIPADY, EDATHALA P.O., ALUVA**

City : **Ernakulam** State : **Kerala**

Pin Code :**683561** Website: **kmeacollege.ac.in**

E-mail:**principal@kmeacollege.ac.in** Phone No (with STD Code) **0484-2411003**

**A3: Name and Address of the Affiliating University (If any): -**

Name of the University: **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY** City: **Thiruvananthapuram**

State: **Kerala** Pin Code: **695016**

**A4: Type of the Institution: - (Tick the applicable choice)**

| | | | |
|---|---|---|---|
| Institute of National Importance | ☐ | Deemed University | ☐ |
| University | ☐ | Autonomous | √ |
| Non-Autonomous (Affiliated) | ☐ | Any other (Please specify) * | |

***Provide Details:** UGC conferred autonomous status for a period of 5 years from the Academic year 2025-26 to 2029-30.

**A5: Ownership Status: - (Tick the applicable choice)**

| | | | |
|---|---|---|---|
| Central Government | ☐ | State Government | ☐ |
| Government Aided | ☐ | Self-financing | ☐ |
| Any Other (Please specify) * | ☐ | ***Provide Details:** _____ | |

**A6: Details of all Programs being Offered by the Institution: -**

- No. of UG programs: **8**
- No. of PG programs: **6**

**Table No. A6.1:** List of all programs offered by the Institute.

| S.N. | Level of program (UG/PG) | LEVEL OF PROGRAM | Name of the program | Year of Start | Year of close* | Name of the Department |
|---|---|---|---|---|---|---|
| 1 | Computer Application | PG | Master of Computer Application | 2024 | -- | Computer Science and Engineering |
| 2 | Engineering & Technology | UG | Artificial Intelligence and Data Science | 2024 | -- | Computer Science and Engineering |
| 3 | Engineering & Technology | UG | Civil Engineering | 2008 | -- | Civil Engineering |
| 4 | Engineering & Technology | PG | Communication Engineering | 2011 | -- | Electronics and Communication Engineering |
| 5 | Engineering & Technology | PG | Computer Aided Structural Engineering | 2012 | -- | Civil Engineering |
| 6 | Engineering & Technology | PG | Computer Science and Engineering | 2011 | -- | Computer Science and Engineering |
| 7 | Engineering & Technology | UG | Computer Science and Engineering | 2002 | -- | Computer Science and Engineering |
| 8 | Engineering & Technology | UG | Electrical & Electronics Engineering | 2009 | -- | Electrical and Electronics Engineering |
| 9 | Engineering & Technology | UG | Electronics & Communication Engineering | 2002 | -- | Electronics and Communication Engineering |
| 10 | Engineering & Technology | PG | Industrial Engineering and Management | 2024 | -- | Mechanical Engineering |
| 11 | Engineering & Technology | UG | Mechanical Engineering | 2010 | -- | Mechanical Engineering |
| 12 | Engineering & Technology | PG | Power Electronics | 2013 | -- | Electrical and Electronics Engineering |
| 13 | Engineering & Technology | UG | Robotics and Automation | 2023 | -- | Electronics and Communication Engineering |
| 14 | Engineering & Technology | UG | Safety & Fire Engineering | 2023 | -- | Safety and Fire Engineering |

**A7: Programs to be considered for Accreditation vide this Application:**

**Table No. A7.1**: List of programs to be considered for accreditation.

| Cluster ID. | Name of the Department | Name of the Program |
|---|---|---|
| 1. | Electrical and Electronics Engineering | Electrical & Electronics Engineering |
| 2. | Mechanical Engineering | Mechanical Engineering |
| 3. | Computer Science and Engineering | Computer Science and Engineering |
| 4. | Civil Engineering | Civil Engineering |
| 5. | Electronics and Communication Engineering | Electronics & Communication Engineering |

**Table No. A7.2:** Allied Department(s) to the Department of the program considered for accreditation as above.

| Cluster ID. | Name of the Department (in Table No. A7.1) | Name of allied Departments/Cluster (for table no. A7.1) |
|---|---|---|
| 1. | Electronics and Communication Engineering | Robotics and Automation |

**PART-B: Program information**

(Data to be filled in for the program applied for Accreditation)

**B1: Provide the Required Information for the Program Applied For: -**

**Table No. B1:** Program details.

| S. N. | Program Name | Year of start | Sanctioned Intake | Increase/ decrease in intake, if any in intake, if any | Year of increase/ decrease | AICTE Approval Details | Accreditation Status* | No. of times program accredited |
|---|---|---|---|---|---|---|---|---|
| 1. | ELECTRONICS AND COMMUNICATION ENGINEERING | 2002 | 60 | yes | 2025-26: 60<br>2024-25: 30<br>2023-24: 30<br>2022-23: 30<br>2021-22: 30<br>2020-21: 30 | South-West/1-4464222631 9/2025/EOA Date of Approval: 05-Apr-2025 | Granted accreditation for 3 years for the period (September 2023-June 2026) | 1 |

**B2: Detail of Head of the Department for the program under consideration:**

**A. Name of the HoD : Dr. Shahin M Abdulla**

**B. Nature of appointment: (Tick the applicable choice)**

- ❖ **Regular** ☐
- ❖ **Contract** ☐
- ❖ **Ad hoc** ☐

**C. Qualification: (Tick the applicable choice)**

- ❖ **Ph.D.** ☐
- ❖ **ME/M.Tech** ☐
- ❖ **Any other*** ☐

***Please provide details:*** _____

**B3: Program Details**

**Table No. B3.1:** Admission details for the program excluding those admitted through multiple entry and exit points.

| 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) |
|---|---|---|---|---|---|---|---|
| N= Sanctioned intake of the program (as per AICTE /Competent authority) | 60 | 30 | 30 | 30 | 30 | 30 | 30 |
| N1= Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program | 56 | 30 | 28 | 30 | 30 | 30 | 19 |
| N2= Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats | 0 | 2 | 0 | 1 | 1 | 5 | 5 |
| N3= Separate division if any | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N4= Total no. of students admitted in the 1st year via all supernumerary quotas | 0 | 2 | 0 | 2 | 2 | 2 | 0 |
| Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points. | 56 | 34 | 28 | 33 | 33 | 37 | 24 |

CAY= Current Academic Year.
CAYm1= Current Academic Year Minus 1 CAYm2= Current Academic Year Minus 2. LYG= Last Year Graduate.
LYGm1= Last Year Graduate Minus 1.
LYGm2= Last Year Graduate Minus 2.

**B4: Enrolment Ratio in the First Year**

**Table No. B4.1:** Student enrolment ratio in the 1st year.

| Item (Students enrolled in the First Year on average over 3 academic years (CAY, CAYm1, and CAYm2)) | CAY | CAYm1 | CAYm2 |
|---|---|---|---|
| N= Sanctioned intake of the program in the 1st year (as per AICTE/Competent authority) | 60 | 30 | 30 |
| N1= Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program | 56 | 30 | 28 |
| N4= Total no. of students admitted in the 1st year via all supernumerary quotas | 0 | 2 | 0 |
| Enrolment Ratio (ER)= (N1+N4)/N | 93.33 | 106.67 | 93.33 |
| **Average ER=** (ER_1+ ER_2+ ER_3)/3 | 97.78 | | |

**B5: Success Rate of the Students in the Stipulated Period of the Program**

**Table No.B5.1:** The success rate in the stipulated period of a program.

| Item | LYG | LYGm1 | LYGm2 |
|---|---|---|---|
| A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any). | 31 | 35 | 35 |
| B=No. of students who graduated from the program in the stipulated course duration | 9 | 17 | 16 |
| Success Rate (SR)= (B/A)*100 | 29.03 | 48.57 | 45.71 |
| Average SR of three batches ((SR_1+SR_2+ SR_3)/3) | 41.10 | | |

**Note** *: If the value of A in Table No. B5.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of A in Table No.B5.1 should be the sum of the sanctioned intake (N) and the lateral entry including

leftover seats (N2) of Table No.B3.1.

### B6: Academic Performance of the First-Year Students of the Program

**Table No.B6.1:** Academic Performance of the First-Year Students of the Program.

| Academic Performance | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|
| X= (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) | 7.08 | 7.05 | 6.60 |
| Y= Total no. of successful students | 17 | 6 | 15 |
| Z = Total no. of students appeared in the examination | 30 | 28 | 30 |
| API = X* (Y/Z) | 4.01 | 1.51 | 3.30 |
| Average API = ( API_1 + API_2 + API_3)/3 | 2.94 | | |

### B7: Academic Performance of the Second Year Students of the Program

**Table No.B7.1:** Academic Performance of the Second Year Students of the Program.

| Academic Performance | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|
| X= (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) | 7.30 | 6.72 | 6.95 |
| Y= Total no. of successful students | 5 | 14 | 13 |
| Z =Total no. of students appeared in the examination | 6 | 16 | 14 |
| API = X* (Y/Z) | 6.08 | 5.88 | 6.45 |
| Average API = ( API_1 + API_2 + API_3)/3 | 6.14 | | |

### B8: Academic Performance of the Third Year Students of the Program

**Table No.B8.1:** Academic Performance of the Third Year Students of the Program

| Academic Performance | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|
| X= (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) | 7.15 | 7.08 | 7.59 |
| Y= Total no. of successful students | 8.00 | 9.00 | 17.00 |
| Z= Total no. of students appeared in the examination | 14 | 13 | 17 |
| API = X* (Y/Z) | 4.09 | 4.90 | 7.59 |

| | |
|---|---|
| Average API = ( API_1 + API_2 + API_3)/3 | 5.53 |

**B9: Placement, Higher Studies, and Entrepreneurship**

**Table No.B9.1:** Placement, higher studies, and entrepreneurship details.

| Item | LYG | LYGm1 | LYGm2 |
|---|---|---|---|
| FS*=Total no. of final year students | 31 | 35 | 35 |
| X= No. of students placed | 29 | 33 | 20 |
| Y= No. of students admitted to higher studies | 2 | 1 | 0 |
| Z= No. of students taking up entrepreneurship | 0 | 0 | 2 |
| X + Y + Z = | 31 | 34 | 22 |
| Placement Index (P) = (((X + Y + Z)/FS) * 100) | 100 | 97.14 | 62.86 |
| Average placement index = (P_1 + P_2 + P_3)/3 | 86.67 | | |

**Note** ***:** If the value of FS in Table No. B9.1 is less than the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2), then the value of FS in Table No. B9.1 should be the sum of the sanctioned intake (N) and the lateral entry including leftover seats (N2) of Table No.B3.1.

## PART C: Faculty Details in Department and Allied Departments

**(Data to be filled in for the Department and Allied Departments)**

**C1: Faculty details of Department and Allied Departments**

**Table No.C1: Faculty details in the Department for the past 3 years, including CAY**

| S. N. | Name of the Faculty | PAN No. | Highest degree | University | Area of Specialization | Date of Joining in this Institution | Experience In years in current institute | Designation at Time Joining in this Institution | Present Designation | The date on which Designated as Professor/ Associate/ Professor if any | Nature of Association (Regular/Contract/Adhoc) | Currently Associated (Y/N) | In case of NO, Date of Leaving | IS HOD? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Dr.Smitha. K.M. | XXXXXXX36P | Ph. D | MG UNIVERSITY | Communication Systems | 08.03.2006 | 19.9 | Assistant Professor | Professor | 01-02-2013(Associate) 01.05.2025(Professor) | Regular | Y | | |
| 2 | Dr.Shahin M Abdulla | XXXXXXX83G | Ph. D | NICHE | Electronics & Communication Engineering | 10.02.2022 | 3.10 | Assistant Professor | Associate Professor | 27-05-2022 | Regular | Y | | Yes |
| 3 | Dr.Bushara A R | XXXXXXX61D | Ph. D | NICHE | Electronics & Communication | 01.07.2011 | 14.5 | Assistant Professor | Associate Professor | 16-12-2024 | Regular | Y | | |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Engineering | | | | | | | | | |
| 4 | Abini M.A | XXXXXXX30E | M.TECH | CUSAT | VLSI and Embedded Systems | 02.07.2012 | 13.5 | Assistant Professor | Associate Professor | 17-12-2025 | Regular | Y | | |
| 5 | Binish M.C | XXXXXXX18B | M.TECH | CUSAT | Signal Processing | 02.07.2012 | 13.5 | Assistant Professor | Assistant Professor | | Regular | Y | | |
| 6 | Jubaira Mammoo | XXXXXXX52L | M.TECH | ANNA UNIVERSITY | Communication Systems | 01.08.2013 | 12.4 | Assistant Professor | Associate Professor | 24-06-2026 | Regular | Y | | |
| 7 | Mohammed Ismail H | XXXXXXX62N | M.TECH | CUSAT | Digital Electronics | 01.07.2013 | 12.5 | Assistant Professor | Assistant Professor | | Regular | Y | | |
| 8 | Amrutha P R | XXXXXXX46K | M. Tech | APJ ABDUL KALAM KERALA TECHNOLOGICAL UNIVERSITY | Wireless Technology | 20.11.2023 | 2 | Assistant Professor | Assistant Professor | | Regular | Y | | |
| 9 | Ajasudheen V A | XXXXXXX46P | M.Tech | MG UNIVERSITY | Applied Electronics | 23/03/2022 | 2.1 | Assistant Professor | Assistant Professor | | Regular | No | 30/04/2024 | |
| 10 | Shikha U S | XXXXXXX12M | M.Tech | CUSAT | VLSI and Embedded Systems | 04/04/2022 | 1.6 | Assistant Professor | Assistant Professor | | Regular | No | 30/10/2023 | |

Table No.C2: Faculty details of Allied Departments for the past 3 years, including CAY.

| Sr. No | Name of the Faculty | PAN No. | Highest degree | University | Area of Specialization | Date of Joining in this Institution | Experience in years in current institute | Designation at Time Joining in this Institution | Present Designation | The date on which Designated as Professor/ Associate Professor if any | Nature of Association (Regular/ Contract/ Adhoc) | Currently Associated (Y/N) | In case of NO, Date of Leaving | IS HOD? |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Dr. SANGEETHA C P | XXXXXXX29M | Ph.D | ANNA UNIVERSITY | INFORMATION AND COMMUNICATION ENGINEERING | 11/02/2020 | 5.10 | Associate Professor | Professor | 03/03/2025 | Regular | Yes | | Yes |
| 2 | Mrs. VANI CHALAT | XXXXXXX35R | M.Tech | ANNA UNIVERSITY CHENNAI | EMBEDDED SYSTEMS | 10/09/2025 | 0.3 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 3 | Mrs.Ayshamol V H | XXXXXXX86Q | M.Tech | MG UNIVERSITY | APPLIED ELECTRONICS | 02/05/2025 | 0.7 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 4 | Rameesa Mol J | XXXXXXX84F | M.Tech | VISVESVARAYA TECHNOLOGICA | INDUSTRIAL ELECTRONICS | 09/04/2025 | 0.8 | Assistant Prof | Assistant Prof | | Regular | Yes | | No |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L UNIVERSITY | | | | essor | essor | | | | | |
| 5 | ALIYA SHAHUL | XXXXXXX90G | M. Tech | APJ ABDUL KALAM KERALA TECHNOLOGICAL UNIVERSITY | VLSI & EMBEDDED SYSTEMS | 25/07/2023 | 2 | Assistant Professor | Assistant Professor | | Regular | No | 30/07/2025 | No |

## C2: Student-Faculty Ratio (SFR)

- **No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):**
  - **UG1=1st UG program**
  - **UGn=nth UG program**
    - **B= No. of Students in UG 2nd year (ST)**
    - **C= No. of Students in UG 3rd year (ST)**
    - **D= No. of Students in UG 4th year (ST)**
- **No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):**
  - **PG1=1st PG program.**
  - **PGm=mth PG program**
    - **A= No. of Students in PG 1st year**
    - **B= 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 (ST)=Sanctioned Intake (SA)+ Actual admitted students via lateral entry, including leftover seats (L) 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 (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).**

**Table No.C2.1:** Student-faculty ratio.

| Year | CAY | CAYm1 | CAYm2 |
|---|---|---|---|
| $UG_1$. B // 2nd year students of $UG_1$ program | 32 | 30 | 30 |
| $UG_1$. C // 3rd year students of $UG_1$ program | 30 | 30 | 31 |
| $UG_1$. D // 4th year students of $UG_1$ program | 30 | 31 | 33 |
| $UG_1$ // Total no.of students(2nd, 3rd, 4th) in **Electronics & Communication Engineering** | **92** | **91** | **94** |
| $UG_2$. B // 2nd year students of $UG_n$ program | 30 | 31 | 0 |
| $UG_2$. C // 3rd year students of $UG_n$ program | 31 | 0 | 0 |
| $UG_2$. D // 4th year students of $UG_n$ program | 0 | 0 | 0 |
| $UG_2$ // Total no.of students(2nd, 3rd, 4th) in **Robotics & Automation Engineering** | **61** | **31** | **0** |
| $PG_1$. A // 1st year students of $PG_1$ program | 12 | 12 | 18 |
| $PG_1$. B // 2nd year students of $PG_1$ program | 12 | 18 | 18 |
| $PG_1$ // Total no.of students(1st, 2nd) in **Communication Engineering** program | **24** | **30** | **36** |
| DS=Total no. of students in all UG and PG programs in the Department | 116 | 121 | 130 |
| AS=Total no. of students of all UG and PG programs in allied departments | 61 | 31 | 0 |
| **S=Total no. of students in the Department (DS) and allied departments (AS)** | **177** | **152** | **130** |
| DF=Total no. of faculty members in the Department | 8 | 8 | 8 |
| AF= Total no. of faculty members in the allied Departments | 3 | 2 | 2 |
| F=Total no. of faculty members in the Department (DF) and allied Departments (AF) | **F1=11** | **F2=10** | **F3=10** |
| FF=The faculty members in F who have a 100% teaching load in the first-year courses | 1 | 1 | 1 |
| **Student Faculty Ratio (SFR)=S/(F-FF)** | **SFR1= 17.70** | **SFR2=16.89** | **SFR3=14.44** |
| Average SFR for 3 years | **Average SFR=16.34** | | |

### C3: Faculty Qualification

- Faculty qualification index (FQI) = 2.5 * [(10X +4Y)/RF] where
  - X=No. of faculty members with Ph.D. degree or equivalent as per AICTE/UGC norms.
  - Y=No. of faculty members with M. Tech. or ME degree or equivalent as per AICTE/ UGC normsRF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section C2 of this documents: (RF=S/20).

**Table No.C3.1:** Faculty qualification.

| Year | X | Y | RF | FQI= 2.5 * [(10X +4Y)/RF] |
|---|---|---|---|---|
| **CAY** | **4** | **7** | **8** | **21.25** |
| **CAYm1** | **3** | **7** | **7** | **20.71** |
| **CAYm2** | **3** | **7** | **6** | **24.17** |

### C4: Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
  - RF1= No. of Professors required = 1/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per C2 of this documents:.
  - RF2= No. of Associate Professors required = 2/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents:.
  - RF3= No. of Assistant Professors required = 6/9 * No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents:.
- Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

**Table No.C4.1:** 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** | **1** | **1** | **1** | **3** | **5** | **7** |
| **CAYm1** | **1** | **0** | **1** | **3** | **5** | **7** |
| **CAYm2** | **1** | **0** | **1** | **3** | **4** | **7** |
| **Average Numbers** | **RF1=1** | **AF1=0.33** | **RF2=1** | **AF2=3** | **RF3=4.67** | **AF3=7** |

### C5: Visiting/Adjunct Faculty/Professor of Practice

**Table No. C5.1:** List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

| S.N. | Name of the Person | Designation & Organization | Name of the Course | No. of hours handled |
|---|---|---|---|---|
| **CAYm1** | | | | |
| **1** | Mohammed Zamroodh | Adjunct Faculty, Ignatarium Technology Solutions Pvt Ltd | Logic Circuit Design ECT 203 | 25 |
| **2** | Sunil Paul | Visiting Faculty, Srishti Robotics | Computer Architecture & Microcontrollers-ECT 206 | 27 |
| **Total no. of hours:** | | | | |
| **CAYm2** | | | | |
| **1** | Sunil Paul | Visiting Faculty,Srishti Robotics | Computer Architecture &' Microcontrollers | 27 |
| **2** | Sunil Paul | Visiting Faculty,Srishti Robotics | Project Phase 2 -ECD 416 | 30 |
| **Total no. of hours:** | | | | |

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

### C6: Academic Research

**Table No. C6.1:** Faculty publication details.

| S.N. | Item | CAYm1 | CAYm2 | CAYm3 |
|---|---|---|---|---|
| 1 | No. of peer-reviewed journal papers published | 6 | 5 | 0 |
| 2 | No. of peer-reviewed conference papers published | 6 | 4 | 0 |
| 3 | No. of books/book chapters published | 1 | 0 | 0 |

**C7: Sponsored Research Project**

**Table No. C7.1:** List of sponsored research 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** | Dr.Smitha K M | | ECE KMEA | Thrash Collection and Oil Skimming Robot | APJKTU | 6month | Rs25000 |
| **..** | | | | | | | |
| **Amount received (Rs.)** | | | | | | | |
| **CAYm2** | | | | | | | |
| **1** | | | | | | | |
| **...** | | | | | | | |
| **Amount received (Rs.)** | | | | | | | |
| **CAYm3** | | | | | | | |
| **1** | | | | | | | |
| **..** | | | | | | | |
| **Amount received (Rs.)** | | | | | | | |
| **Total Amount (Lacs) Received for the Past 3 Years** | | | | | | | |

**C8: Consultancy Work**

**Table No. C8.1:** 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** | | | | | | | |
| **..** | | | | | | | |
| **Amount received (Rs.)** | | | | | | | |
| **CAYm2** | | | | | | | |
| **1** | | | | | | | |
| **...** | | | | | | | |

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

**C9: Institution Seed Money or Internal Research Grant to its Faculty for Research Work Table No. C9.1:** List of faculty members received seed money or internal research grant from the Institution.

| S.N. | Faculty name | Project title/ Support for Activity | Duration | Amount (Lacs) | Amount Utilized (Lacs) | Outcomes of the project |
|---|---|---|---|---|---|---|
| CAYm1 | | | | | | |
| 1 | | | | | | |
| .. | | | | | | |
| Amount received (Rs.) | | | | | | |
| CAYm2 | | | | | | |
| 1 | | | | | | |
| .. | | | | | | |
| Amount received (Rs.) | | | | | | |
| CAYm3 | | | | | | |
| 1 | | | | | | |
| .. | | | | | | |
| Amount received (Rs.) | | | | | | |
| Total amount (Lacs) received for the past 3 years | | | | | | |

## PART-D: Laboratory Infrastructure in the Department

(Data to be filled in for the Department).

### D1: Adequate and Well-equipped Laboratories and Technical Manpower

**Table No. D1.1:** List of laboratories and technical manpower.

| S. N. | Name of the Laboratory | No. of students per setup (Batch Size) | Name of the major equipment | Weekly utilization status (all the courses for which the lab is utilized) | Technical Manpower support | | |
|---|---|---|---|---|---|---|---|
| | | | | | Name of the technical staff | Designation | Qualification |
| 1. | Electronic product design lab | 4 | Cathode Ray Oscilloscope<br>Function Generator<br>Single Power Supply<br>Dual Power Supply<br>LCR Meter<br>Digital Multimeter<br>Analog Multimeter<br>Digital IC Tester<br>Analog IC Tester | Even Semester: 4. Odd Semester: 14 | Mrs. Soudha Marikar | Lab Instructor | Diploma in Electronics Engineering |
| | | | Digital Storage Oscilloscope<br>Cathode Ray Oscilloscope | | Mrs. Rosely A | Lab Instructor | Diploma in |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 2 | Analog circuits Lab | 4 | Function Generator<br>Variable Power Supply<br>LCR Meter<br>Digital Multimeter<br>stabilizer<br>Analog Multimeter<br>Isolation Transformer<br>Heat Gun<br>IC Tester | Odd Semester: 9.<br>Even Semester: 3 | | | Electronics Engineering |
| 3 | Integrated Circuits Lab | 4 | Cathode Ray Oscilloscope<br>Function Generator<br>Dual Power Supply<br>Single Power Supply<br>Voltmeter<br>IC Trainer Kit<br>IC Tester<br>Multimeter (Analog& Digital)<br>Stabilizer | Odd Semester: 15 | Mrs. Sumaya Ansar | Lab Instructor | Diploma in Electronics Engineering |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | Advanced Communication Lab | 4 | Link-A Fiber Optic Communication Kit<br>Microwave Bench<br>Antenna setup<br>Gunn Diode Setup<br>Fiber Optic Power Meter<br>Single Mode Fiber Optic Cable Module<br>Fiber Optic Passive Component Module<br>Dual Wavelength Fiber Optic Laser Source and Detector Module<br>Cathode Ray Oscilloscope<br>Digital Storage Oscilloscope<br>Function Generator<br>Single Power Supply<br>Dual Power | Even Semester :3, Odd Semester: 3 | Mrs. Sumaya Ansar | Lab instructor | Diploma in Electronics Engineering |
| 5 | Systems Lab | 1 | Desktop Computer<br>8051 Microcontroller Kit<br>DSP TMS320C6748 DSK<br>FPGA Spartan6 trainer kit<br>CODEC With Preamplifier | Even Semester: 18. Odd Semester: 15 | Mrs. Sumaya Ansar | Lab Instructor | Diploma in Electronics Engineering |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Interface Boards<br>PAL Trainer Module<br>Xilinx Software<br>Matlab Software | | | | |
| 6 | Microprocessor and Microcontroller Lab | 4 | 8085 Microprocessor Trainer Kit<br>8086 Microprocessor Kit<br>8255 Interface Board Model ST-8255<br>8251&8253 Interface Board Model ST-8255<br>8279 Interface Board Model 8279<br>Keyboard & Display Interface Board<br>8Channel ADC Interface Board<br>Stepper Motor Controller with Motor<br>DAC Interface Board<br>8-Digit Multiplexer Display Board<br>LCD Interface Board<br>Computer<br>8051 Development Board including LED, RS232, Power supply etc. | Even Semester: 12, Odd Semester: 15 | Mrs. Soudha Marikar | Lab Instructor | Diploma in Electronics Engineering |

**D2: `Safety Measures in Laboratories**

**Table No. D2.1:** List of various safety measures in laboratories.

| S.N. | Name of the Laboratory | Safety measures |
|---|---|---|
| 1. | Analog circuits laboratory | · Ensure all power supplies are switched off before making or modifying circuit connections<br>· Use insulated probes and leads<br>· Verify component ratings before use<br>· Avoid short circuits; keep the workspace dry and uncluttered<br>· Follow proper grounding practices. |
| 2 | Electronic Product Design Laboratory | · Ensure proper handling of electronic components and tools<br>· Use regulated power supplies and verify voltage levels before powering circuits.<br>· Disconnect power before modifying or soldering circuits Use safety glasses during soldering and drilling operations.<br>· Ensure adequate ventilation when working with soldering fumes.<br>· Maintain a clean and organized workspace to prevent accidents. |
| 3 | Project and Simulation Lab | · Ensure proper use of computers and simulation software as per guidelines<br>· Avoid unauthorized hardware or software installations<br>· Follow correct electrical safety practices while interfacing simulation models with hardware<br>· Use proper cable management to prevent tripping hazards<br>· Back up project data regularly<br>· Maintain adequate ventilation and ergonomic seating to prevent strain<br>· Switch off equipment after use and report any system faults immediately. |
| 4 | Integrated circuits lab | · Follow strict ESD precautions while handling ICs and semiconductor devices<br>· Ensure correct IC orientation before insertion. Operate circuits within specified voltage and current limits<br>· Avoid hot-plugging components<br>· Switch off power before modifying connections. Maintain a clean and organized workbench to prevent accidental damage. |
| 5 | Advanced Communication Lab | · Ensure all communication and RF equipment is properly grounded<br>· Use shielded cables to minimize interference<br>· Avoid direct exposure to high-frequency signals. Operate transmitters within specified power limits<br>· Switch off equipment before changing connections<br>· Follow proper handling procedures for antennas and RF modules. |

| | | |
|---|---|---|
| **6** | **Systems lab** | · **Verify correct system configurations before power-up**<br>· **Use stabilized power supplies**<br>· **Avoid loose or improper wiring**<br>· **Ensure proper ventilation for computing equipment**<br>· **Do not overload power sockets**<br>· **Shut down systems properly after use** |
| **7** | **Advanced Computing and Research Lab** | · **Ensure proper electrical grounding of all computing equipment**<br>· **Avoid unauthorized hardware or software installations**<br>· **Maintain adequate ventilation and cooling for high-performance systems**<br>· **Use proper cable management to prevent tripping hazards**<br>· **Practice ergonomic workstation setup to reduce strain**<br>· **Regularly back up research data and adhere to cybersecurity and data confidentiality guidelines.** |

**D3: Project Laboratory/Research Laboratory**

The department has established dedicated project and research laboratories to support undergraduate and postgraduate projects, faculty research, innovation activities, and startup initiatives. These laboratories provide a conducive environment for interdisciplinary research, prototyping, simulation, and technology development. The Electronic Incubation Center also provides facilities for student Startups.

**Table No. D3.1:** List of project laboratory/research laboratory /Centre of Excellence.

| S.N. | Name of the Laboratory |
|---|---|
| 1. | Project and Simulation Laboratory |
| 2 | Electronic Incubation Center |

## 1. Project and Simulation Laboratory

The department's project laboratory offers students the opportunity to gain valuable hands-on experience in a state-of-the-art environment, becoming proficient in both the physical and creative skills needed in the field of Electronics and Communication Engineering. The Project Laboratory has a key role in promoting practical learning experience, where students develop creative proposals and execute their final projects.

**Facilities and Utilizations:**

1. A Project is an activity that is planned to meet a particular defined objective undertaken to create a product or system.
2. A project laboratory, with the help of the above-mentioned laboratories, is available, where all students have ready access to the facility required for the project work.
3. The primary purpose of the laboratory is to provide the space and resources needed by the students.

**Table No. D3.2: List of Equipment and Software used in the Project Laboratory**

| Name of Equipment | No. |
|---|---|
| Computer | 5 |
| FPGA kit | 3 |
| CODEC With Preamplifier | 3 |
| Interface Boards | 35 |
| Universal PIC Embedded Trainer | 1 |
| Software for Universal Trainer | 1 |
| Universal Programmer | 1 |
| PAL Trainer Module | 3 |
| Xilinx software | 5 |
| Matlab Software | 5 |
| Cathode Ray Oscilloscope | 5 |
| Function Generator | 5 |
| Single Power Supply & Dual Power Supply | 5 |
| Multimeter | 1 |
| IC Tester Analog & Digital | 1 |
| LCR Q Meter | 1 |
| Stabilizer | 1 |
| FPGA boards Spartan 6 | 3 |

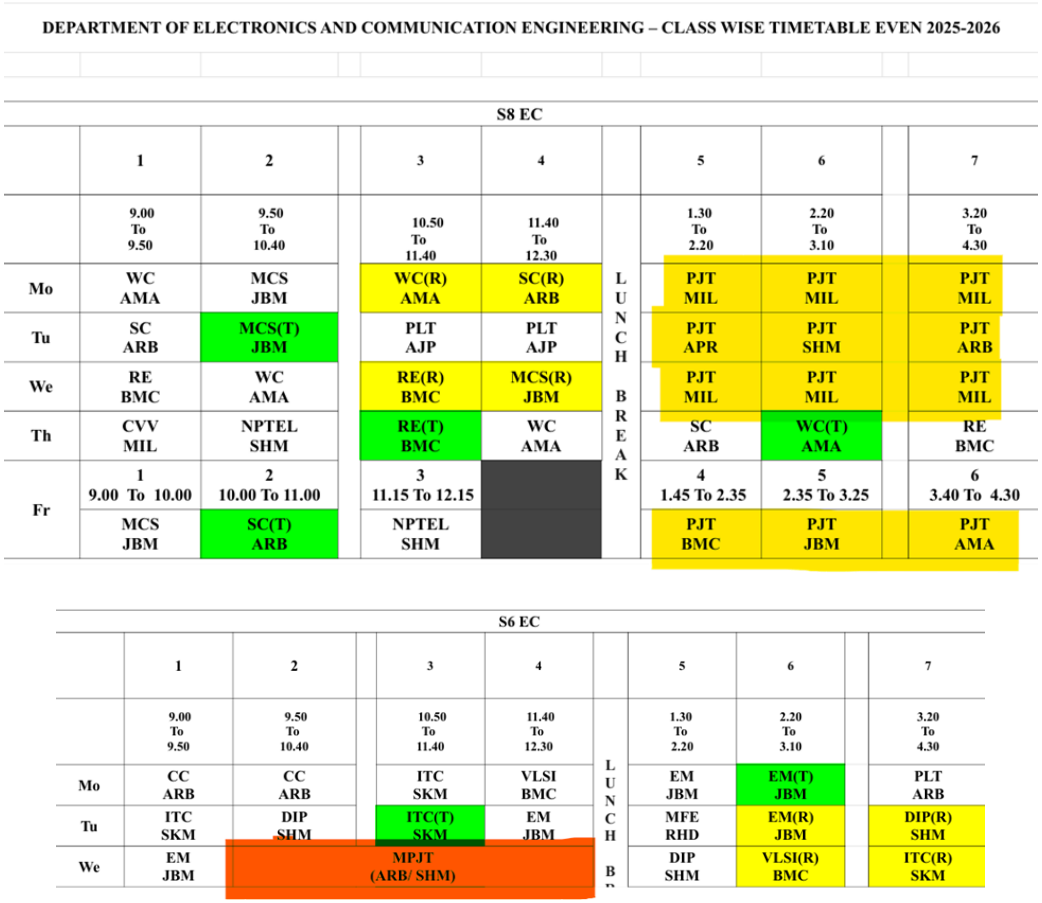


**Figure D3.1 Project Laboratory**

**Table No. D3.3. Best Projects and Awards**

| Sl. No. | Name of the Event | Students involved in the Project | Project Name | Batch | Date | Appreciation / Position / Awarded |
|---|---|---|---|---|---|---|
| 1 | Indo-French Workshop on Artificial Intelligence, Healthcare and Way Forward for India and France | Mubeena Mirshad | Pediatric Focal Cortical Dysplasia Lesion Segmentation Using CAS U-Net | 2021–2025 | 22–24 March 2025 | Certificate of Participation |
| 2 | IIC Regional Meet 2025 (MoE's Innovation Cell, Institutions' Innovation Council, AICTE) | Nidha Navas | Wall Climbing Glass Cleaning Robot | 2022-2026 | 28 November 2025 | Certificate of Participation |
| 3 | IEEE International Conference on Smart and Intelligent Systems (SISCON 2025) | Nidha Navas | Wall Climbing Glass Cleaning Robot | 2022-2026 | 19–20 December 2025 | Paper Presentation Certificate |
| 4 | APJ KTU CERD | Aaliya Fathima, Noorul Haque, Aparna, Afreed Mohammed | Trash Collection and Oil Skimming boat | 2021-2025 | On process | Selected for Funding of 22,000/- |

**Table No. D3.4: Project Laboratory Time Table**



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING – CLASS WISE TIMETABLE EVEN 2025-2026

S8 EC

| | 1 | 2 | 3 | 4 | | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| | 9.00 To 9.50 | 9.50 To 10.40 | 10.50 To 11.40 | 11.40 To 12.30 | | 1.30 To 2.20 | 2.20 To 3.10 | 3.20 To 4.30 |
| Mo | WC AMA | MCS JBM | WC(R) AMA | SC(R) ARB | LUNCH BREAK | PJT MIL | PJT MIL | PJT MIL |
| Tu | SC ARB | MCS(T) JBM | PLT AJP | PLT AJP | | PJT APR | PJT SHM | PJT ARB |
| We | RE BMC | WC AMA | RE(R) BMC | MCS(R) JBM | | PJT MIL | PJT MIL | PJT MIL |
| Th | CVV MIL | NPTEL SHM | RE(T) BMC | WC AMA | | SC ARB | WC(T) AMA | RE BMC |
| Fr | 1 9.00 To 10.00 | 2 10.00 To 11.00 | 3 11.15 To 12.15 | | | 4 1.45 To 2.35 | 5 2.35 To 3.25 | 6 3.40 To 4.30 |
| | MCS JBM | SC(T) ARB | NPTEL SHM | | | PJT BMC | PJT JBM | PJT AMA |

S6 EC

| | 1 | 2 | 3 | 4 | | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| | 9.00 To 9.50 | 9.50 To 10.40 | 10.50 To 11.40 | 11.40 To 12.30 | | 1.30 To 2.20 | 2.20 To 3.10 | 3.20 To 4.30 |
| Mo | CC ARB | CC ARB | ITC SKM | VLSI BMC | LUNCH B | EM JBM | EM(T) JBM | PLT ARB |
| Tu | ITC SKM | DIP SHM | ITC(T) SKM | EM JBM | | MFE RHD | EM(R) JBM | DIP(R) SHM |
| We | EM JBM | MPJT (ARB/ SHM) | | | | DIP SHM | VLSI(R) BMC | ITC(R) SKM |

## 2. Electronic Incubation Center

Electronics Incubation Center, a Joint venture of District Industries Center (DIC), Govt. of Kerala, and KMEA Engineering College, Edathala, Aluva, was born with the vision of bringing decades of experience & expertise to the entrepreneurial world. The center provides support for innovation activities and entrepreneurial initiatives. The center has a built-up space of more than 2500 sq. ft. and is well furnished. Infrastructural facilities/ equipment available in the center are given in Table 1. Apart from the facilities available at the center, the incubation center is enjoying all the facilities available in the college.

The laboratory is equipped with a wide range of modern instruments and systems that support teaching, research, and product development in electronics and embedded systems. Core equipment, such as auto transformers, dimmerstats, programmable power supplies, function generators, digital storage oscilloscopes, spectrum analyzers, and signal analyzers, enables precise testing, measurement, and analysis of electronic circuits across analog, digital, and high-frequency domains.

To facilitate integrated circuit design, testing, and prototyping, the laboratory includes analog and digital IC testers, LCR-Q meters, high-frequency counters, universal programmers, and

microcontroller development systems for PIC and 8051 platforms. Advanced software tools such as Edwin XP EDA (licensed for 20 users) and facilities like the PCB prototype machine allow students and researchers to design, simulate, fabricate, and validate electronic circuits within the laboratory environment. Essential support equipment, such as true RMS digital multimeters, digital humidity and pH meters, and soldering and de-soldering stations, ensure safe, accurate, and efficient experimentation, thereby creating a comprehensive ecosystem for experiential learning, innovation, and industry-oriented skill development.

**Table No. D3.5: List of Equipment and Facilities Available in the Incubation Center**

| Sl. No | Item Details |
|---|---|
| 1 | Auto Transformers. |
| 2 | Dimmerstats |
| 3 | Analog/linear IC Tester |
| 4 | Digital IC Tester |
| 5 | Digital storage oscilloscopes |
| 6 | True RMS Digital Multimeters |
| 7 | Digital Humidity Meter |
| 8 | Digital pH Meter |
| 9 | Edwin XP EDA Software-(License for 20 users) |
| 10 | High Frequency Counter |
| 11 | LCR-Q Meter |
| 12 | Laptops |
| 13 | PCB Prototype Machine |
| 14 | IBM Server |

| | |
|---|---|
| 15 | Computers |
| 16 | Networking with internet connection |
| 17 | Printers |
| 18 | Programmable Power Supplies |
| 19 | Signal Analyzer |
| 20 | Universal Programmer |
| 21 | Spectrum Analyzer 1000 MHz with accessory probes for various applications |
| 22 | Microcontroller development systems for PIC, 8051 microcontrollers |
| 23 | Function Generator |
| 24 | Soldering and Desoldering Stations |

**Table No. D3.6:. Startups Incubated at KMEA Incubation Center**

| Sl. No | Startup Name | Members | Present Status |
|---|---|---|---|
| 1 | Protoheim Pvt Ltd | Saran K S, Divya S, Muhammed Jeswan | Incorporated |
| 2 | Nefer Solutions Pvt Ltd | Aadhil Sabir | Incorporated |
| 3 | TZETIT SOLUTIONS PVT. LTD. | Shahanaz, Mansoor | Incubated |

**PART E: First Year faculty and financial Resources.**

(Data to be filled in for the first-year course faculty and budget allocation and utilization)

**E1: First Year Student-Faculty Ratio (FYSFR)**

**Table No. E1.1**: FYSFR details.

| Year | Sanctioned intake of all UG programs (S4) | No. of required faculty (RF4= S4/20) | No. of faculty members in Basic Science Courses & Humanities and Social Sciences, including Management courses (NS1) | No. of faculty members in Engineering Science Courses (NS2) | Percentage= No. of faculty members ((NS1*0.8) +(NS2*0.2))/(No. of required faculty (RF4)); Percentage=((NS1*0.8)+ (NS2*0.2))/RF4 |
|---|---|---|---|---|---|
| 2023-24(CAYm2) | **360** | **18** | **14** | **26** | **91.1** |
| 2024-25(CAYm1) | **390** | **19.5** | **13** | **35** | **89.2** |
| 2025-26(CAY) | **480** | **24** | **18** | **36** | **90.1** |
| Av | | | | **Average percentage** | **90.1** |

**E2: Budget Allocation, Utilization, and Public Accounting at Institute Level**

**Table No. E2.1:** Budget and actual expenditure incurred at Institute level.

| Items | Budgeted in 2024-2025 | Actual Expenses in 2024-2025 till | Budgeted in 2023-2024 | Actual Expenses in 2023-2024 till | Budgeted in 2022-2023 | Actual Expenses in 2022-2023 till | Budgeted in 2021-2022 | Actual Expenses in 2021-2022 till |
|---|---|---|---|---|---|---|---|---|
| Infrastructure Built-Up | 8440000 | 1674318 | 8520000 | 8964668 | 15500000 | 12737638 | 1930500 | 2394813 |
| Library | 1838000 | 132062 | 910000 | 816463 | 1500000 | 931933 | 2572500 | 1415076 |
| Laboratory equipment | 6214000 | 1375218 | 228000 | 157247 | 5263000 | 4924895 | 1440000 | 3881504 |
| Teaching and non-teaching staff salary | 55000000 | 38447814 | 54000000 | 53519813 | 50650000 | 50182658 | 50650000 | 49203095 |
| Outreach Programs | 200000 | 35785 | 100000 | 14327 | 100000 | 59553 | 100000 | 31600 |
| R&D | 500000 | 0 | 523000 | 122870 | 137500 | 31586 | 100000 | 0 |
| Training, Placement and Industry linkage | 300000 | 153636 | 2317000 | 315884 | 800000 | 1382732 | 600000 | 568494 |
| SDGs | 18000000 | 16875688 | 3120000 | 518413 | 500000 | 53345 | 1900000 | 51628 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Entrepreneurship | 500000 | 64718 | 50000 | 45000 | 900000 | 858044 | 700000 | 621467 |
| Others*, pl. specify | 14000000 | 11034383 | 8684000 | 13791171 | 1029500 | 7998364 | 18191000 | 10582195 |
| **Total amount** | 104992000 | 69793622 | 78452000 | 78265856 | 76380000 | 79160748 | 78184000 | 68749872 |

**E3: Budget Allocation, Utilization, and Public Accounting at Program-Specific Level**

**Table No. E3.1:** Budget and actual expenditure incurred at program level.

| Items | Budgeted in 2024-2025 | Actual Expenses in 2024-2025 till | Budgeted in 2023-2024 | Actual Expenses in 2023-2024 till | Budgeted in 2022-2023 | Actual Expenses in 2022-2023 till | Budgeted in 2021-2022 | Actual Expenses in 2021-2022 till |
|---|---|---|---|---|---|---|---|---|
| Laboratory equipment | 595000 | 238971 | 705500 | 2950 | 323000 | 0 | 471500 | 240594 |
| Software | 100000 | 0 | 0 | 0 | 0 | 0 | 200000 | 0 |
| SDGs | 85000 | 74000 | 180000 | 40674 | 100000 | 61900 | 10000 | 0 |
| Support for faculty development | 100000 | 0 | 90500 | 0 | 10000 | 0 | 0 | 0 |
| R & D | 100000 | 0 | 100000 | 0 | 100000 | 0 | 352000 | 0 |
| Industrial Training, Industry expert, Internship | 185000 | 1733 | 124000 | 3000 | 340000 | 0 | 400000 | 0 |
| Miscellaneous expenses * | 53000 | 0 | 80000 | 24415 | 77000 | 59321 | 36500 | 20184 |
| **Total amount** | 1218000 | 314704 | 1280000 | 71039 | 950000 | 121221 | 1470000 | 260778 |