

**NATIONAL BOARD OF ACCREDITATION**

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

|  |  |
|--|--|
| <b>Program Name</b> : Electrical and Electronics Engineering | <b>Discipline</b> : Engineering & Technology |
| <b>Level</b> : Under Graduate                                | <b>Tier</b> : 1                              |
| <b>Application No</b> : 11769                                | <b>Date of Submission</b> : 10-04-2026       |

**PART A- Profile of the Institute**

|  |   |
|--|---|
| <b>A1.Name of the Institute</b> : NEW HORIZON COLLEGE OF ENGINEERING                                       |   |
| Year of Establishment : 2001   | Location of the Institute: Bangalore urban    |
| <b>A2. Institute Address</b> :RING ROAD, KADUBISANAHALLI, BELLANDUR POST, NEAR MARATHALLI BANGALORE 560103 |   |
| City:Bangalore Urban   | State:Karnataka                               |
| Pin Code:560103  | Website:www.newhorizoncollegeofengineering.in |
| Email:principal@newhorizonindia.edu  | Phone No(with STD Code):080-66297777          |
| <b>A3. Name and Address of the Affiliating University (if any)</b> :                                       |   |
| Name of the University : Visvesvaraya Technological University (VTU), Belag                                | City: Belgaum                                 |
| State : Karnataka  | Pin Code: 590018                              |
| <b>A4. Type of the Institution</b> : Autonomous CAY(2016-17)   |   |
| <b>A5. Ownership Status</b> : Self financing   |   |

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

- No. of UG programs: 9
- No. of PG programs: 3

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

| Sr.No. | Discipline               | Level of program | Name of the program                             | Year of Start | Year of Closed | Name of The Department                          |
|--------|--------------------------|------------------|---|---------------|----------------|---|
| 1      | Computer Application     | PG               | Master of Computer Application                  | 2002          | --             | Computer Application                            |
| 2      | Engineering & Technology | UG               | Artificial Intelligence and Machine Learning    | 2020          | --             | Artificial Intelligence and Machine Learning    |
| 3      | Engineering & Technology | UG               | Civil Engineering                               | 2001          | 2023           | Civil Engineering                               |
| 4      | Engineering & Technology | UG               | Computer Engineering                            | 2020          | 2023           | Computer Engineering                            |
| 5      | Engineering & Technology | UG               | Computer Science and Engineering                | 2001          | --             | Computer Science and Engineering                |
| 6      | Engineering & Technology | PG               | Computer Science and Engineering                | 2010          | --             | Computer Science and Engineering                |
| 7      | Engineering & Technology | UG               | Computer Science and Engineering (Data Science) | 2022          | 2025           | Computer Science and Engineering (Data Science) |
| 8      | Engineering & Technology | UG               | Electrical and Electronics Engineering          | 2001          | --             | Electrical and Electronics Engineering          |

|    |                          |    |   |      |      |   |
|----|--------------------------|----|---|------|------|---|
| 9  | Engineering & Technology | UG | Electronics & Communication Engineering | 2001 | --   | Electronics and Communication Engineering |
| 10 | Engineering & Technology | UG | Information Science & Engineering       | 2001 | 2024 | Information Science and Engineering       |
| 11 | Engineering & Technology | UG | Mechanical Engineering                  | 2003 | --   | Mechanical Engineering                    |
| 12 | Management               | PG | Master of Business Administration       | 2004 | --   | Management                                |

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

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

| Name of the Department                 | Having Allied Departments | Name of the Program                    | Program Level |
|--|---------------------------|--|---------------|
| Electrical and Electronics Engineering | No                        | Electrical and Electronics Engineering | UG            |

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)

|           |
|-----------|
| No Record |
|-----------|

**PART-B: Program information****B1. Provide the Required Information for the Program Applied For:**

Table No. B1: Program details.

## A. List of the Programs Offered by the Department:

| SR.NO. | PROGRAM NAME                           | PROGRAM APPLIED LEVEL | YEAR OF START / YEAR OF CLOSED | SANCTIONED INTAKE | INCREASE/DECREASE INTAKE (if any) | YEAR OF INCREASE/DECREASE | CURRENT INTAKE | YEAR OF AICTE APPROVAL | AICTE/COMPETENT AUTHORITY APPROVAL DETAILS                  | ACCREDITATION STATUS  | FROM | TO   | NO. OF TIMES PROGRAM ACCREDITED | PROGRAM DURATION |
|--------|--|-----------------------|--------------------------------|-------------------|-----------------------------------|---------------------------|----------------|------------------------|---|---|------|------|---------------------------------|------------------|
| 1      | Electrical and Electronics Engineering | UG                    | 2001 / --                      | 40                | Yes                               | 2010                      | 120            | 2010                   | South-West Region/1-11989651/2010/EOA dated August 23, 2010 | Granted accreditation for 3 years for the period (specify period) | 2023 | 2026 | 3                               | 4                |

## List of the Allied Departments/Cluster and Programs:

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

|                           |               |
|---------------------------|---------------|
| A. Name of the HoD :      | Dr. Sujitha S |
| B. Nature of appointment: | Regular       |
| C. Qualification:         | Ph.D          |

**B3. Program Details**

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

| Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)  | 2025-26 (CAY) | 2024-25 (CAYm1) | 2023-24 (CAYm2) | 2022-23 (CAYm3) | 2021-22 (CAYm4) | 2020-21 (CAYm5) | 2019-20 (CAYm6) |
|--|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| N=Sanctioned intake of the program (as per AICTE /Competent authority)   | 120           | 120             | 120             | 120             | 120             | 120             | 120             |
| 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 | 120           | 88              | 99              | 102             | 91              | 104             | 94              |
| N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats  | 0             | 12              | 13              | 11              | 13              | 12              | 11              |
| 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             | 0               | 0               | 0               | 0               | 0               | 0               |
| Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.                                      | 120           | 100             | 112             | 113             | 104             | 116             | 105             |

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.

| Year of entry   | N (From Table 4.1) | N1 (From Table 4.1) | N4 (From Table 4.1) | Enrollment Ratio [(N1/N)*100] |
|-----------------|--------------------|---------------------|---------------------|-------------------------------|
| 2025-26 (CAY)   | 120                | 120                 | 0                   | 100.00                        |
| 2024-25 (CAYm1) | 120                | 88                  | 0                   | 73.33                         |
| 2023-24 (CAYm2) | 120                | 99                  | 0                   | 82.50                         |

Average [ (ER1 + ER2 + ER3) / 3 ] = 85.28≅ 17.00

#### 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  | (2021-22) LYG | (2020-21) LYGM1 | (2019-20) 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). | 133.00        | 132.00          | 131.00          |
| B=No. of students who graduated from the program in the stipulated course duration  | 89.00         | 108.00          | 93.00           |

Average SR of three batches ((SR\_1+ SR\_2+ SR\_3)/3): 73.41

#### 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( 2024-25 ) | CAYm2( 2023-24 ) | CAYm3 ( 2022-23 ) |
|--|------------------|------------------|-------------------|
| 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) | 7.62             | 7.82             | 7.87              |
| Y=Total no. of successful students   | 88.00            | 99.00            | 102.00            |

|   |       |       |        |
|---|-------|-------|--------|
| Z=Total no. of students appeared in the examination | 88.00 | 99.00 | 102.00 |
| API [X*(Y/Z)]                                       | 7.62  | 7.82  | 7.87   |

Average API [ (AP1+AP2+AP3)/3 ] : 7.77

**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 ( 2024-25 ) | CAYm2 ( 2023-24 ) | CAYm3 ( 2022-23 ) |
|--|-------------------|-------------------|-------------------|
| 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) | 7.64              | 7.74              | 7.96              |
| Y=Total no. of successful students   | 110.00            | 111.00            | 101.00            |
| Z=Total no. of students appeared in the examination  | 112.00            | 113.00            | 104.00            |
| API [ X * (Y/Z) ]  | 7.50              | 7.60              | 7.73              |

Average API [ (AP1 + AP2 + AP3)/3 ] : 7.61

**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 (2024-25) | CAYm2 (2023-24) | CAYm3 (2022-23) |
|--|-----------------|-----------------|-----------------|
| 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) | 7.88            | 8.00            | 8.05            |
| Y=Total no. of successful students   | 101.00          | 100.00          | 116.00          |
| Z=Total no. of students appeared in the examination  | 111.00          | 101.00          | 116.00          |
| API [ X*(Y/Z) ]:   | 7.17            | 7.92            | 8.05            |

Average API [ (AP1 + AP2 + AP3)/3 ] : 7.71

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

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

| Item   | LYG (2021-22) | LYGm1(2020-21) | LYGm2(2019-20) |
|--|---------------|----------------|----------------|
| FS*=Total no. of final year students           | 133.00        | 132.00         | 131.00         |
| X=No. of students placed                       | 99.00         | 114.00         | 97.00          |
| Y=No. of students admitted to higher studies   | 3.00          | 5.00           | 3.00           |
| Z= No. of students taking up entrepreneurship  | 3.00          | 3.00           | 2.00           |
| Placement Index(P) = (((X + Y + Z)/FS) * 100): | 78.95         | 92.42          | 77.86          |

Average Placement Index = (P\_1 + P\_2 + P\_3)/3: 83.08 Placement Index Points:

**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

| 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/ Ad hoc) | Currently Associated (Y/N) | In case of NO, Date of Leaving | IS HOD? |
|-------|--------------------------|-------------|----------------|---|--------------------------------------|-------------------------------------|--|---|---------------------|---|---|----------------------------|--------------------------------|---------|
| 1     | Dr. Sujitha S            | XXXXXXXX64C | Ph.D           | Anna University, Chennai                            | Electrical Engineering               | 25/07/2016                          | 9.8                                      | Associate Professor                             | Professor           | 01/08/2023  | Regular   | Yes                        |                                | Yes     |
| 2     | Dr.Vinoth Kumar K        | XXXXXXXX84L | Ph.D           | Karunya University, Coimbatore                      | Power Electronics and Drives         | 24/08/2020                          | 5.7                                      | Associate Professor                             | Professor           | 01/08/2023  | Regular   | Yes                        |                                | No      |
| 3     | Dr. Arangarajan V        | XXXXXXXX67H | Ph.D           | Deakin University, Australia                        | Electrical & Electronics Engineering | 25/01/2021                          | 5.2                                      | Professor                                       | Professor           |   | Regular   | Yes                        |                                | No      |
| 4     | Dr. Agalya V             | XXXXXXXX02C | Ph.D           | Anna University, Chennai                            | Electrical Engineering               | 02/03/2022                          | 4.1                                      | Professor                                       | Professor           |   | Regular   | Yes                        |                                | No      |
| 5     | Dr. Gunapriya B          | XXXXXXXX11P | Ph.D           | Anna University, Chennai                            | Power Electronics and Drives         | 17/07/2019                          | 6.8                                      | Associate Professor                             | Professor           | 01/08/2025  | Regular   | Yes                        |                                | No      |
| 6     | Dr. Karthika M           | XXXXXXXX56H | Ph.D           | Visvesvaraya Technological University, Belagavi     | Power Electronics and Drives         | 25/07/2012                          | 13.8                                     | Assistant Professor                             | Associate Professor | 01/08/2024  | Regular   | Yes                        |                                | No      |
| 7     | Dr. Joshua Daniel Raj    | XXXXXXXX40E | Ph.D           | Visveswaraya Technological University, Belagavi     | VLSI design and Embedded System      | 01/08/2016                          | 9.8                                      | Assistant Professor                             | Associate Professor | 01/08/2023  | Regular   | Yes                        |                                | No      |
| 8     | Dr. Mohan Das R          | XXXXXXXX78R | Ph.D           | Anna University, Chennai                            | Power Electronics and Drives         | 17/07/2019                          | 6.8                                      | Assistant Professor                             | Associate Professor | 01/10/2020  | Regular   | Yes                        |                                | No      |
| 9     | Ms. Anitha A             | XXXXXXXX73B | M.E.           | Anna University, Chennai                            | Power Electronics                    | 04/02/2015                          | 11.1                                     | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |
| 10    | Mr. Satishkumar D        | XXXXXXXX09C | M.E.           | Anna University, Chennai                            | Power Electronics & Drives           | 20/07/2015                          | 10.8                                     | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |
| 11    | Ms. Kavitha Channa Reddy | XXXXXXXX26P | M.Tech         | Jawaharlal Nehru Technological University, Kakinada | High Voltage Engineering             | 25/07/2012                          | 13.8                                     | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |
| 12    | Mr. Sunil S K            | XXXXXXXX53G | M.Tech         | Visvesvaraya Technological University, Belagavi     | Power System Engineering             | 25/07/2016                          | 9.8                                      | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |
| 13    | Ms. Deepa Bolanavar      | XXXXXXXX88E | M.Tech         | Visveswaraya Technological University, Belagavi     | VLSI design and Embedded System      | 25/07/2016                          | 9.8                                      | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |

|    |                        |             |        |  |  |            |     |                     |                     |  |                      |     |  |    |
|----|------------------------|-------------|--------|--|--|------------|-----|---------------------|---------------------|--|----------------------|-----|--|----|
| 14 | Mr. Vinod Kumar S      | XXXXXXXX58J | M.E.   | Anna University, Coimbatore                          | Power System Engineering                   | 23/01/2017 | 9.2 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 15 | Ms. Sangeetha C N      | XXXXXXXX67Q | M.Tech | Jawaharlal Nehru Technological University, Hyderabad | Electrical Power System                    | 05/07/2022 | 3.8 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 16 | Ms. Surat Pyari Atti   | XXXXXXXX96J | M.Tech | Jawaharlal Nehru Technological University, Hyderabad | Power Electronics                          | 06/10/2022 | 3.5 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 17 | Dr. Sujoy Das          | XXXXXXXX35J | Ph.D   | National Institute of Technology Agartala            | Power Systems                              | 03/02/2025 | 1.1 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 18 | Ms. Roopa C            | XXXXXXXX63H | M.Tech | Visveswaraya Technological University, Belagavi      | Computer Applications in Industrial Drives | 02/08/2023 | 2.8 | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |  | No |
| 19 | Ms. Suganya G          | XXXXXXXX39A | M.Tech | Visveswaraya Technological University, Belagavi      | Power Electronics and Drives               | 24/08/2020 | 5.7 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 20 | Ms. Rashmi N           | XXXXXXXX39M | M.Tech | Visveswaraya Technological University, Belagavi      | Computer Application in Industrial Drives  | 02/08/2023 | 2.8 | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |  | No |
| 21 | Ms. Pooja Jose         | XXXXXXXX72E | M.Tech | University of Calicut, Tenhipalam                    | Power Electronics                          | 05/07/2022 | 3.8 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 22 | Ms. Soumya K V         | XXXXXXXX51K | M.E.   | Anna University, Chennai                             | VLSI Design                                | 05/07/2022 | 3.9 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 23 | Mr. Kartheek Vankadara | XXXXXXXX71R | M.E.   | Sathyabama University, Chennai                       | Power Electronics and Industrial Drives    | 06/10/2022 | 3.6 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 24 | Ms. Anitha Nair        | XXXXXXXX75E | M.E.   | Andhra University, Visakhapatnam                     | Control Systems                            | 25/10/2023 | 2.5 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 25 | Ms. Veena M Hunagund   | XXXXXXXX75K | M.Tech | PES University, Bangalore                            | VLSI and Embedded System                   | 03/02/2025 | 1.2 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 26 | Mr. S Boobalan         | XXXXXXXX85C | M.E.   | Anna University, Chennai                             | Control & Instrumentation                  | 01/09/2025 | 0.7 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 27 | Mr. Vinod Kumar M H    | XXXXXXXX96B | M.Tech | Visveswaraya Technological University, Belagavi      | Industrial Electronics                     | 08/10/2025 | 0.5 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 28 | Ms. Ramya S            | XXXXXXXX14C | M.E.   | Anna University, Chennai                             | Power System Engineering                   | 09/02/2026 | 0.1 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |

|    |                          |             |      |   |                          |            |      |                     |                     |  |         |     |            |    |
|----|--------------------------|-------------|------|---|--------------------------|------------|------|---------------------|---------------------|--|---------|-----|------------|----|
| 29 | Dr. P Meenakshi Sundaram | XXXXXXXX59R | Ph.D | Anna University, Chennai                  | Power System Engineering | 16/02/2026 | 0.1  | Assistant Professor | Assistant Professor |  | Regular | Yes |            | No |
| 30 | Dr. Sakthivel Aruchaamy  | XXXXXXXX93N | Ph.D | Anna University, Chennai                  | Power Electronics        | 02/08/2023 | 1.10 | Professor           | Professor           |  | Regular | No  | 06/06/2025 | No |
| 31 | Dr. Prasanthram J        | XXXXXXXX31L | Ph.D | Vellore Institute of Technology, Vellore  | Power Electronics        | 17/07/2019 | 5.10 | Assistant Professor | Assistant Professor |  | Regular | No  | 31/05/2025 | No |
| 32 | Ms. Manochitra G         | XXXXXXXX78C | M.E. | Anna University, Chennai                  | Control Systems          | 06/10/2022 | 1.10 | Assistant Professor | Assistant Professor |  | Regular | No  | 10/08/2024 | No |
| 33 | Dr. Mausri Bhuyan        | XXXXXXXX94G | Ph.D | National Institute of Technology, Silchar | Power Systems            | 04/10/2023 | 1.2  | Assistant Professor | Assistant Professor |  | Regular | No  | 28/12/2024 | No |

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

**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)).

No. of UG Programs in the Department1 No. of PG Programs in the Department0

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

| Description  | CAY(2025-26) | CAYm1 (2024-25) | CAYm2 (2023-24) |
|--|--------------|-----------------|-----------------|
| UG1.B  | 132          | 132             | 131             |
| UG1.C  | 132          | 131             | 132             |
| UG1.D  | 131          | 132             | 132             |
| <b>UG1: Electrical and Electronics Engineering</b>                       | <b>395</b>   | <b>395</b>      | <b>395</b>      |
| DS=Total no. of students in all UG and PG programs in the Department     | 395          | 395             | 395             |
| AS=Total no. of students of all UG and PG programs in allied departments | 0            | 0               | 0               |

| Description   | CAY(2025-26) | CAYm1 (2024-25) | CAYm2 (2023-24) |
|---|--------------|-----------------|-----------------|
| S=Total no. of students in the Department (DS) and allied departments (AS)          | S1= 395      | S2= 395         | S3= 395         |
| DF=Total no. of faculty members in the Department                                   | 25           | 25              | 25              |
| AF= Total no. of faculty members in the allied Departments                          | 0            | 0               | 0               |
| F=Total no. of faculty members in the Department (DF) and allied Departments (AF)   | F1= 25       | F2= 25          | F3= 25          |
| 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= 16.46  | SFR2= 16.46     | SFR3= 16.46     |
| Average SFR for 3 years   | SFR= 16.46   |                 |                 |

**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 norms.
- RF=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    | FQ = $2.5 * [(10X + 4Y) / RF]$ |
|----------------|----|----|-------|--------------------------------|
| 2025-26(CAY)   | 9  | 16 | 19.00 | 20.26                          |
| 2024-25(CAYm1) | 10 | 15 | 19.00 | 21.05                          |
| 2023-24(CAYm2) | 9  | 16 | 19.00 | 20.26                          |

**C4. Faculty Cadre Proportion**

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required =  $1/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per C2 of this documents:}$ .
- RF2= No. of Associate Professors required =  $2/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents:}$ .
- RF3= No. of Assistant Professors required =  $6/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents:}$ .
- 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 RF1 | Available AF1 | Required RF2         | Available AF1 | Required RF3         | Available AF3 |
| 2025-26 | 2.00         | 5.00          | 4.00                 | 3.00          | 13.00                | 15.00         |
| 2024-25 | 2.00         | 5.00          | 4.00                 | 4.00          | 13.00                | 14.00         |
| 2023-24 | 2.00         | 5.00          | 4.00                 | 3.00          | 13.00                | 15.00         |
| Average | RF1=2.00     | AF1=5.00      | RF2=4.00             | AF2=3.33      | RF2=13.00            | AF2=14.67     |

**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.

**(CAYm1)**

| S.No | Name of the Person | Designation                  | Organization         | Name of the Course                              | No. of hours handled |
|------|--------------------|------------------------------|----------------------|---|----------------------|
| 1    | Mr. K Jeykishan    | Engineering officer Grade-II | CPRI, Bengaluru      | 22EEE63 Generation, Transmission and Protection | 22.00                |
| 2    | Mr. K Jeykishan    | Engineering officer Grade-II | CPRI, Bengaluru      | 21EEE72-Photovoltaic System & Application       | 20.00                |
| 3    | Dr. Sidhartha Nair | Founder & CEO                | Zeuron.ai, Bangalore | 22EEE351-Microcontroller and Embedded Systems   | 18.00                |

**(CAYm2)**

| S.No | Name of the Person | Designation                  | Organization                            | Name of the Course                                      | No. of hours handled |
|------|--------------------|------------------------------|---|---|----------------------|
| 1    | Mr. K Jeykishan    | Engineering officer Grade-II | CPRI, Bengaluru                         | 21EEE53 Generation, Transmisson and Protection          | 20.00                |
| 2    | Mr. S.Vinoth Kumar | Design Engineer - P&C        | WSP Consultant India PVT Ltd, Bengaluru | 21EEL62 Advanced Industrial and Building Automation Lab | 54.00                |

**(CAYm3)**

| S.No | Name of the Person         | Designation           | Organization                             | Name of the Course                      | No. of hours handled |
|------|----------------------------|-----------------------|--|---|----------------------|
| 1    | Mr. S.Vinoth Kumar         | Design Engineer - P&C | WSP Consultant India PVT Ltd, Bengaluru  | 20EEE55 Industrial Automation           | 51.00                |
| 2    | Mr. Kishore Kumar Kulkarni | Engineer              | Rajamane Hedge Services Pvt Ltd, Tumkuru | 20EEE653 Advanced Industrial Automation | 50.00                |

**C6. Academic Research**

Table No. C6.1: Faculty publication details.

| S.No. | Item   | 2024-25<br>(CAYm1) | 2023-24<br>(CAYm2) | 2022-23<br>(CAYm3) |
|-------|--|--------------------|--------------------|--------------------|
| 1     | No. of peer reviewed journal papers published    | 24                 | 22                 | 19                 |
| 2     | No. of peer reviewed conference papers published | 45                 | 38                 | 36                 |
| 3     | No. of books/book chapters published             | 4                  | 4                  | 4                  |

**C7. Sponsored Research Project**

Table No. C7.1: List of sponsored research projects received from external agencies.

(CAYm1)

| 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) i.e. 15,25,000=15.25 |
|--------------------|--------------------|---|--|--|-------------------------|-----------------------------------|
| Dr. Gunapriya B    | Mr. Satish Kumar D | Electrical & Electronics Engineering Department | AI-ML Driven Smart Embedded Systems and Next Gen Batteries for the Future of E mobility and Defense Technologies | "Anusandhan National Research Foundation (ANRF), SERB"                                 | 2 days                  | 1.50                              |
| Dr. Mohan Das R    | Mr. Vinod Kumar S  | Electrical & Electronics Engineering Department | Digital Twin Technology and its Role in Industrial Automation  | AICTE-ATAL   | 5 days                  | 3.00                              |
| Dr.B.Gunapriya     |                    | Electrical & Electronics Engineering Department | Circular Mobility: Self – Regenerating Tires for Sustainable Electric Transportation                             | Karnataka State Council for Science and Technology (KSCST)                             | 6 months                | 0.05                              |
| Dr. Sujitha S      |                    | Electrical & Electronics Eng                    | Distributor Control Algorithm for Swarm Robotics in Dynamic Environment  | Karnataka State Council for Science and Technology (KSCST)                             | 6 months                | 0.05                              |
| Dr. Sujitha S      |                    | Electrical & Electronics Engineering Department | Therapeutic Treadmill and Foot Pedal for Physically Challenged Children  | Karnataka State Council for Science and Technology (KSCST)                             | 6 months                | 0.05                              |
| Dr. Sujitha S      |                    | Electrical & Electronics Engineering Department | Rescue Rover: All-Terrain Emergency Response and Exploration Vehicle   | Karnataka State Council for Science and Technology (KSCST)                             | 6 months                | 0.05                              |
| Dr.Vinoth Kumar K  |                    | Electrical & Electronics Engineering Department | Research Potential in Power Electronics Converters for Renewable Energy  | "Anusandhan National Research Foundation (ANRF), SERB"                                 | 2 days                  | 1.50                              |
| Dr. S Sujitha      | Dr.Vinoth Kumar K  | Electrical & Electronics Engineering Department | Development of "Advanced Intelligent Modular Satellite-Bus (AIMS-B)  | ITCA, UNISEC India, DRL, TSC P Ltd   | 12 months               | 4.00                              |
| Dr. Vinoth Kumar K | Dr. Sujitha S      | Electrical & Electronics Engineering Department | "Research Potential in Advanced Power Electronics & Renewable Energy"  | "E&ICT Academy, NITW, Ministry of Electronics and Information Technology (Meity), GOI" | 3 Months                | 1.00                              |
| Dr. Sujitha S      | Dr. Karthika M     | Electrical & Electronics Engineering Department | Portable, Human-Energy Charger for Rural and Emergency Use   | Unnat Bharat Abhiyan   | 12 months               | 1.00                              |
| Dr. Vinoth Kumar K |                    | Electrical & Electronics Engineering Department | "Research Challenges in Advanced Power Converters for Industrial Electronics Applications"                       | IEEE Industrial Electronics Society  | 3 Months                | 0.62                              |
|                    |                    |   |  |  |                         | Amount received (Rs.):12.82       |

(CAYm2)

| 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) i.e. 15,25,000=15.25 |
|--------------------|--------------------|---|---|---|-------------------------|-----------------------------------|
| Dr. Vinoth Kumar K | Ms. Anitha A       | Electrical & Electronics Engineering Department | A portable improvised solar home lighting system with lifepo4 battery   | Karnataka State Council for Science and Technology (KSCST)  | 6 months                | 0.05                              |
| Dr. Sujitha S      |                    | Electrical & Electronics Engineering Department | Farmguard: Automated animal detection and monitoring system   | Karnataka State Council for Science and Technology (KSCST)  | 6 months                | 0.06                              |
| Dr. Sujitha S      |                    | Electrical & Electronics Engineering Department | Empowering mobility for disabled: Design and fabrication of E-Tricycle  | Karnataka State Council for Science and Technology (KSCST)  | 6 months                | 0.07                              |
| Dr. Sujitha S      |                    | Electrical & Electronics Engineering Department | EV touch start: Fingerprint-powered Ignition  | Karnataka State Council for Science and Technology (KSCST)  | 6 months                | 0.07                              |
| Dr. Vinoth Kumar K |                    | Electrical & Electronics Engineering Department | Solar Powered Induction Motor Speed Control using IoT for agriculture   | Karnataka State Council for Science and Technology (KSCST)  | 6 months                | 0.07                              |
| Dr. Mausri Bhuyan  |                    | Electrical & Electronics Engineering Department | Load frequency control of isolated hybrid microgrid   | Karnataka State Council for Science and Technology (KSCST)  | 6 months                | 0.07                              |
| Dr. Sujitha S      |                    | Electrical & Electronics Engineering Department | Enhanced electric propulsion and stability control in two wheeled vehicles  | Karnataka State Council for Science and Technology (KSCST)  | 6 months                | 0.07                              |
| Dr. Bhavya P       | Dr. Karthika M     | Electrical & Electronics Engineering Department | Analysys of Novel heterocyclic compound for photo physical properties nad their biological activity through fluorecence quenching by spectroscopic and computational methods  | "Vision Group of Science & Technology , Govt. of Karnataka" | 12 months               | 3.00                              |
| Dr. S Sujitha      | Dr. Vinoth Kumar K | Electrical & Electronics Engineering Department | Development of "Advanced Intelligent Modular Satellite-Bus (AIMS-B)": 16 cm × 16 cm CubeSat Platform - Design and Development of Smart Electrical Power Supply and Energy Management System (EPS) for AIMS-B CubeSat Platform | University Space Engineering Consortium (UNISEC)-INDIA      | 24 months               | 2.00                              |
| Dr. S Sujitha      | Dr. Vinoth Kumar K | Electrical & Electronics Engineering Department | Phase 2: Design and Development of CubeSat 3U; Electrical Power Supply System (EPS) for CubeSat 3U  | ITCA, UNISEC India, DRL, TSC P Ltd                          | 12 months               | 3.50                              |
| Dr. Vinoth Kumar K |                    | Electrical & Electronics Engineering Department | IEEE-SBC Local Activity - Research Challenges in Advanced Power Converters for Industrial Electronics Applications  | IEEE-International Grants                                   | 1 months                | 0.42                              |
| Dr. Sujitha S      |                    | Electrical & Electronics Engineering Department | IEEE Bangalore Section, Bengaluru   | Rural Outreach Activity                                     | 3 Months                | 0.05                              |
|                    |                    |   |   |   |                         | Amount received (Rs.):9.43        |

## (CAYm3)

| 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)<br>i.e. 15,25,000=15.25 |
|-----------------------|--------------------|---|--|--|-------------------------|--------------------------------------|
| Dr. S Sujitha         |                    | Electrical & Electronics Engineering Department | Design and Fabrication of Quad Bike for Physically Challenged  | Karnataka State Council for Science and Technology (KSCST) | 6 months                | 0.05                                 |
| Dr. Karthika M        | Dr. Mohan Das R    | Electrical & Electronics Engineering Department | Design and Implementation of Solar Feed Flood Alert System Using Bolt Wi-Fi Module                               | Karnataka State Council for Science and Technology (KSCST) | 6 months                | 0.04                                 |
| Mrs. Surat Pyari Atti | Dr. Sujitha S      | Electrical & Electronics Engineering Department | Artificial Intelligence Based Self-Driving Car Using Robotic Model   | Karnataka State Council for Science and Technology (KSCST) | 6 months                | 0.05                                 |
| Mrs. Soumya K V       | Dr. Sujitha S      | Electrical & Electronics Engineering Department | Silent Surveillance Autonomous Drone For Disaster Management and Military Security Using Artificial Intelligence | Karnataka State Council for Science and Technology (KSCST) | 6 months                | 0.05                                 |
| Dr. S Sujitha         | Dr. Vinoth Kumar K | Electrical & Electronics Engineering Department | Phase 2: Design and Development of CubeSat 3U; Electrical Power Supply System (EPS) for CubeSat 3U               | ITCA, UNISEC India, DRL, TSC P Ltd                         | 12 months               | 4.00                                 |
|                       |                    |   |  |  |                         | Amount received (Rs.):4.19           |

**Total Amount (Lacs) Received for the Past 3 Years: 26.44**

**Note\*:**

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

**C8. Consultancy Work**

Table No. C8.1: List of consultancy projects received from external agencies.

## (CAYm1)

| 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)<br>i.e. 15,25,000=15.25 |
|---------------|---|--|---|--|-------------------------|--------------------------------------|
| Dr.S.Sujitha  | Mr. Ashok K, Mr. Sunil S K, Mr. Vinod Kumar S | Electrical & Electronics Engineering           | Development of Software for Transformers - phase 2                                | Dynalektric Equipment Pvt Ltd, Bangalore | 1 year                  | 1.50                                 |
| Dr. Sujitha S | Dr. Karthika M                                | Electrical & Electronics Engineering           | SafeTank Navigator: Advanced Fuel Monitoring for Existing Lorries using load cell | Chaarvedha Technologies, Bangalore       | 1 year                  | 1.60                                 |
| Dr. Sujitha S | Ms Kavitha Chenna Reddy                       | Electrical & Electronics Engineering           | Visual Display Design for Electric Vehicle Testing                                | Chaarvedha Technologies                  | 1 year                  | 1.90                                 |
| Dr. Sujitha S | Dr.Vinoth Kumar K                             | Electrical & Electronics Engineering           | Digitalization of Industrial Flow Control Systems using Smart Electric Actuators  | Instrol LLC, Doha                        | 1 year                  | 4.20                                 |
|               |   |  |   |  |                         | Amount received (Rs.):9.20           |

## (CAYm2)

| 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)<br>i.e. 15,25,000=15.25 |
|---------------|---|--|--|--|-------------------------|--------------------------------------|
| Dr.S.Sujitha  | Mr. Ashok K, Mr. Sunil S K, Mr. Vinod Kumar S | Electrical & Electronics Engineering           | Development of Software for Transformers - phase 1                               | Dynalektric Equipment Pvt Ltd, Bangalore | 1 year                  | 2.00                                 |
| Dr.S.Sujitha  | Ms. Sangeetha C N                             | Electrical & Electronics Engineering           | Eplan software design for pcb assembly line                                      | Chaarvedha Technologies, Bangalore       | 1 year                  | 2.00                                 |
| Dr. S Sujitha | Ms. Pooja Josh                                | Electrical & Electronics Engineering           | HMI Program Development of PCB Insertion Machine                                 | Chaarvedha Technologies                  | 1 year                  | 1.20                                 |
| Dr. S Sujitha | Dr.Vinoth Kumar K                             | Electrical & Electronics Engineering           | Digitalization of Industrial Flow Control Systems using Smart Electric Actuators | Instrol LLC, Doha                        | 1 year                  | 3.50                                 |
|               |   |  |  |  |                         | Amount received (Rs.):8.70           |

## (CAYm3)

| 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)<br>i.e. 15,25,000=15.25 |
|------------------------|--------------------|--|--|-------------------------------------|-------------------------|--------------------------------------|
| Dr. Mohandas R         | Mr. Vinodkumar S   | Electrical & Electronics Engineering           | AI-Based Predictive Analytics for Industrial Data Monitoring                       | YGK technologies PVT Ltd, Bengaluru | 1 year                  | 0.15                                 |
| Mr. Vinodkumar S       | Dr. Mohandas R     | Electrical & Electronics Engineering           | Development of IoT Enabled Smart Energy Monitoring System                          | YGK technologies PVT Ltd, Bengaluru | 1 year                  | 0.15                                 |
| Mr. Sunil S K          | Dr. Mohandas R     | Electrical & Electronics Engineering           | Neural Network-Based Fault Detection for Electrical Systems                        | YGK technologies PVT Ltd, Bengaluru | 1 year                  | 0.15                                 |
| Mr. Kartheek Vankadara | Dr. Mohandas R     | Electrical & Electronics Engineering           | Data Visualization Dashboard for Industrial Process Optimization                   | YGK technologies PVT Ltd, Bengaluru | 1 year                  | 0.15                                 |
| Ms. Soumya KV          | Dr. Mohandas R     | Electrical & Electronics Engineering           | Machine Learning Framework for Smart Automation Applications                       | YGK technologies PVT Ltd, Bengaluru | 1 year                  | 0.15                                 |
| Ms. Sangeetha C N      | Dr. Mohandas R     | Electrical & Electronics Engineering           | Intelligent User Interface Design for Real-Time Analytics Platforms                | YGK technologies PVT Ltd, Bengaluru | 1 year                  | 0.15                                 |
| Dr. Sujitha S          | Dr.Gunapriya B     | Electrical & Electronics Engineering           | Design of shop Structure Outdoor Booth - Fusion 360 Drawing                        | Nescafe Kiosk, Bengaluru            | 1 year                  | 0.75                                 |
| Dr.Vinoth Kumar        | Dr.Sujitha S       | Electrical & Electronics Engineering           | Energy Optimization in Industrial Process Automation using Intelligent Controllers | Instrol LLC, Doha                   | 1 year                  | 2.00                                 |
|                        |                    |  |  |                                     |                         | Amount received (Rs.):3.65           |

**Total amount (Lacs) received for the past 3 years: 21.55**

**Note\*:**

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

**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.



| Faculty name                                      | Project title/ Support for Activity  | Duration of the project | Amount(Lacs)<br>i.e. 15,25,000=15.25 | Amount Utilized(Lacs)<br>i.e. 15,25,000=15.25 | Outcomes of the project            |
|---|--|-------------------------|--------------------------------------|---|------------------------------------|
| Dr. Sujitha S                                     | Optimized Frequency Regulation in Isolated Renewable Microgrids with Solar PV Generation           | 1 Year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Sujitha S                                     | TriRoute: Low-Latency 1x3 Router for Optimized Data Distribution                                   | 1 Year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Soumya K V  | Electric Vehicle Battery Management for Sustainable Farming  | 1 Year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Karthika M                                    | Design and Implementation of a Battery Management System   | 1 Year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Sangeetha C N                                     | An Optimized Technique for Feature Extraction and EEG Signal Processing using MATLAB               | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. S Sujitha                                     | AI-Optimized VLSI Amplifier for Real-Time Vehicle-to-Vehicle Data Exchange in Autonomous Vehicles  | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Surat Pyari Aatti                                 | Humanoid Robot   | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Surat Pyari Aatti                                 | Fog Vision For Roads and Rails   | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. S Sujitha                                     | Therapeutic innovative rehabilitation Tools: Treadmill and pedal machine                           | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Anitha A  | Smart gloves for communication: A survey on Technology for the hearing and speech impaired         | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Satish Kumar D                                    | Speed control of PMSM using Fuzzy logic control with PSO technique                                 | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Mausri Bhuyan Dr. Vinoth Kumar K Sangeetha CN | Object oriented RFID with machine learning and IoT   | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Mohan Das                                     | Hybrid Electric Vehicle: Energy Optimization and Emission Reduction for Sustainable Transportation | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Vinoth Kumar K                                | A certain analysis of solar home based lighting system for smart city designed for sustainable     | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Sujitha S                                     | Smart Pavement Repair Bot with IoT and Machine Learning Integration                                | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Sujitha S                                     | AI-Driven Pavement Repair BoT with IOT connectivity  | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Sujitha S                                     | A novel Swam Robotics System for Navigating and Collective decision making                         | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |

|  |  |        |      |      |                                    |
|--|--|--------|------|------|------------------------------------|
| Dr. Vinoth Kumar K                     | A certain investigation of Gesture based Conntrols System in Infotainment of hybrid Car            | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. Karthika M                         | Dual Function System for inventory Management and Safety : IOT based Monioring and Gas Detection   | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. Vinoth Kumar K                     | Analysis of Gesture based Control System in infotainment of Hybrid car using Internet of Things    | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Anitha Nair                            | Neuronet: Convergence of Brain-Computer Interfacing and Network Technologies                       | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. Vinoth Kumar K                     | An analysis of IOT based smart garbage level of detection system                                   | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Ms. Kavitha Chenna Reddy Dr. S.Sujitha | Agri Smart Robo Spider for Spraying and Weed Cutting   | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. Mousri Bhuyan                      | Frequency analysis in a combined hybrid microgrid tuned by DBOA algorithm                          | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. S Sujitha                          | Electromagnetic Compatibility in Wireless EV Charging System                                       | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. S Sujitha                          | Rescue Rover: All- Terrain Emergency Response and exploration Vehicle                              | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. S Sujitha                          | Design of Electric Vehicle with Self- Balance Approach using Gyroscopic Effect                     | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. S Sujitha                          | Prototyping a Smart Medication Management System with Machine Learning                             | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. S Sujitha                          | Implementation of Intelligent Farm Guards: Utilizing Bidirectional Monitoring for Motor Efficiency | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. S Sujitha                          | Therapeutic Treadmill and Foot Pedal for Physically Challenged Children                            | 1 year | 0.08 | 0.08 | Paper Published in IEEE Conference |
| Dr. Mohan Das R                        | Suspension-Integrated Energy Harvesting System For Vehicles  | 1 year | 0.04 | 0.04 | Patent Published                   |
| Satish Kumar D                         | Automatic Headlight Control System Based on Ambient Light Conditions for Vehicles                  | 1 year | 0.04 | 0.04 | Patent Published                   |
| Sunil S K                              | A Ventilation System for Smart Trekking Shoe   | 1 year | 0.04 | 0.04 | Patent Published                   |
| Dr. Sujitha S                          | Safety Integrated Multi-Pin Harness System for Two Wheelers  | 1 year | 0.04 | 0.04 | Patent Published                   |
| Dr. Vinoth Kumar K                     | Design of Smart Street Light with Inbuilt Collision Warning System                                 | 1 year | 0.04 | 0.04 | Patent Published                   |
| Dr. Sujitha S                          | A Design of Animal Monitoring and Prevention in the Hilly Area Located Farms                       | 1 year | 0.04 | 0.04 | Patent Published                   |
| Dr. Agalya V                           | Movable Wireless Refrigerator  | 1 year | 0.04 | 0.04 | Design Patent Granted              |
| Dr. M Karthika                         | Modified Arithmetic Optimization Algorithm (MAOA) based Torque ripple minimization                 | 1 year | 0.08 | 0.08 | Paper published in journal         |
| Dr. Arangarajan Vinayagan              | Discrimination of High Impedance fault in microgrid power network                                  | 1 year | 0.15 | 0.15 | Paper published in journal         |
| Dr. Agalya . V                         | Optimal Dispatching of Electric vehicles based on Optimized deep Learning in IoT                   | 1 year | 0.15 | 0.15 | Paper published in journal         |

|                           |   |        |                                |      |                            |
|---------------------------|---|--------|--------------------------------|------|----------------------------|
| Ms. Sangeetha C.N         | Design and Analysis of Highly Sensitive Terahertz Biosensor for early Cancer Detection Using silver | 1 year | 0.04                           | 0.04 | Paper published in journal |
| Dr. Vinoth Kumar K        | An Analysis of Positive Switching Impulse Voltage and Negative Streamer growth                      | 1 year | 0.08                           | 0.08 | Paper published in journal |
| Dr. Agalya V              | Blockchain-based secure data communication with an optimal energy                                   | 1 year | 0.05                           | 0.05 | Paper published in journal |
| Dr. Arangarajan Vinayagam | Discrimination of High Impedance Fault in Microgrids: A Rule Based Ensemble                         | 1 year | 0.15                           | 0.15 | Paper published in journal |
| Dr. M Karthika            | AC Machines for Industrial Applications   | 1 year | 0.05                           | 0.05 | Book published             |
| Dr. B. Gunapriya          | Artificial Intelligence and Machine Learning  | 1 year | 0.05                           | 0.05 | Book published             |
| Ms. Anitha .A             | Simulink in Power Electronics Circuits using MATLAB   | 1 year | 0.05                           | 0.05 | Book published             |
| Ms. Kavitha Chenna Reddy  | AI-Based Symptom Diagnosis with integrated HER  | 1 year | 0.03                           | 0.03 | Book published             |
| Dr. Sujitha S             | Efficient Net Driven Smart Detection of Dust Accumulation on Solar Panels                           | 1 year | 0.04                           | 0.04 | Paper published in journal |
| Dr. Sujitha .S            | Software in Smart Engineering   | 1 year | 0.08                           | 0.08 | Book published             |
| Dr. Vinoth Kumar K        | IEEE Membership Reimbursement   | 1 year | 0.08                           | 0.08 | Professional Body          |
|                           |   |        | Amount received (Rs.):<br>3.76 |      |                            |

(CAYm2)

| Faculty name                          | Project title/ Support for Activity   | Duration of the project | Amount(Lacs)<br>i.e. 15,25,000=15.25 | Amount Utilized(Lacs)<br>i.e. 15,25,000=15.25 | Outcomes of the project            |
|---------------------------------------|---|-------------------------|--------------------------------------|---|------------------------------------|
| Dr. Vinoth Kumar K                    | Hardware setup investigation of transferrable solar home-based lighting system using IoT      | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Mr. Vinod Kumar S                     | Indoor Air Quality Monitoring System for Healthcare   | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Mr. Vinod Kumar S, Dr. Vinoth Kumar K | Wearable electrocardiogram monitoring device for remote cardiac health management             | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Sakthivel Aruchamy                | Smart Energy Meter Under Gruha Jyothi Scheme in Karnataka                                     | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. S Sujitha                         | Implementation of Farmguard with Automated Animal Detection and Monitoring System using IoT   | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. S Sujitha                         | Implementation of Automated Forest Fire Detection System using IoT                            | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. S Sujitha                         | Design of Battery Powered Electric Vehicle for Sustainable Mobility with Environmental Impact | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Vinod Kumar S, Dr. Mohan Das R        | Dual Axis Solar Tracker   | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Dr. Sujitha S                         | Auto Rotate Fingerprint Module for EV Powered Ignition  | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Dr. Agalya V                          | Lumbar Support Quad Bike  | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Ms.Karthika M                         | Arithmetic Optimization algorithm based torque ripple minimization technique for solar        | 1 year                  | 0.15                                 | 0.15  | Paper Published in Journal         |
| Dr. Vinoth Kumar                      | Implementation of savonius blad wind Tree Structure by Super Lift Luo converter               | 1 year                  | 0.03                                 | 0.03  | Book Chapter published             |
| Dr. Arangarajan Vinayagam             | An- Optimized Frequency Control Of Green Energy Integrated Microgrid Power System             | 1 year                  | 0.15                                 | 0.15  | Paper Published in Journal         |
| Dr. Agalya V                          | Multi- Objective Optimization for Optimal energy transporting path                            | 1 year                  | 0.10                                 | 0.10  | Paper Published in Journal         |
| Dr. Sujitha S                         | An Analysis Of Power System Fault Classifier Using Neural Network                             | 1 year                  | 0.06                                 | 0.06  | Paper Published in Journal         |
| Dr. Sakthivel Aruchamy                | Enhancing Electric Vehicle Performance Through Buck - Boost Converters                        | 1 year                  | 0.15                                 | 0.15  | Paper Published in Journal         |
| Dr. Gunapriya B                       | A Novel Method For Illegal Driver Detection and Legal Driver Identification                   | 1 year                  | 0.05                                 | 0.05  | Paper Published in Journal         |
| Ms Kavitha Chenna Reddy               | Solar PV Fed DC Link voltage for Fuzzy Logic sliding mode controller based                    | 1 year                  | 0.15                                 | 0.15  | Paper Published in Journal         |
| Dr. Vinoth Kumar K                    | Research Excellence Awards - Highest Patent Published   | 1 year                  | 0.05                                 | 0.05  | Research Excellence Awards         |
|                                       |   |                         | Amount received (Rs.): 1.57          |   |                                    |

(CAYm3)

| Faculty name                       | Project title/ Support for Activity  | Duration of the project | Amount(Lacs)<br>i.e. 15,25,000=15.25 | Amount Utilized(Lacs)<br>i.e. 15,25,000=15.25 | Outcomes of the project            |
|------------------------------------|--|-------------------------|--------------------------------------|---|------------------------------------|
| Dr. Sujitha S                      | Solar Powered Multi-functional agricultural robot                                  | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Anitha A, Dr. Vinoth Kumar K       | Non-Invasive Method of Detecting Anemia using AI & IoT                             | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Soumya K V                         | Silent Surveillance Autonomous Drone for Disaster Management and Military Security | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Kartheek Vankadara                 | Study of Battery Management System using Watchdog Software                         | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Mohan Das R                    | Analysis of Electrical Parameters for Formula Style Electric Vehicle               | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Karthika M                     | Solar Fed Flood Alert System Using Arduino   | 1 year                  | 0.08                                 | 0.08  | Paper Published in IEEE Conference |
| Dr. Gunapriya B                    | Self-energized bicycle with bullet alternator and GPS tracing system               | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Dr. Mohan Das R, Mr. Vinod Kumar S | Analysis of electrical parameters for formula style electric vehicle               | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Mr. Satish Kumar D                 | A fully automated system for paralysis patient health management                   | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Ms. Karthika G, Dr. Sujitha S      | Design and Implementation of solar fed flood alert system using Bolt Wi-Fi Module  | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Dr. Sujitha S                      | Design of solar powered multifunctional agricultural robot                         | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Dr. Agalya V                       | Automatic speed control of an electric vehicle using raspberry PI                  | 1 year                  | 0.04                                 | 0.04  | Patent Published                   |
| Dr.Vinoth Kumar K                  | Energy-Constrained Target Localization Scheme for Wireless Sensor Networks         | 1 year                  | 0.30                                 | 0.30  | Paper published in journal         |
| Dr.Vinoth Kumar K                  | Three Ways Chip to Chip Communciation via a Single Photonic Structure              | 1 year                  | 0.05                                 | 0.05  | Paper published in journal         |
| Ms.Karthika.M                      | Torque Ripple Minimization Technique of Position Sensorless                        | 1 year                  | 0.08                                 | 0.08  | Paper published in journal         |
|                                    |  |                         | Amount received (Rs.): 1.15          |   |                                    |

Total amount (Lacs) received for the past 3 years : 6.48

## 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.

| Sr. No | Name of the Laboratory   | Number of students per set up(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      | ELECTRICAL MACHINES LABORATORY<br>ODD: DC Machines and transformers EVEN: <input type="checkbox"/> | 30  | DC MACHINES AND TRANSFORMERS LAB • DC Motor • DC Compound Generator • DC Compound Motor • <input type="checkbox"/>            | ODD: 12 Hours  | Mr. G.S. Siddalingeswara Sv | Lab Instructor | I.T.I, Diploma |
| 2      | POWER SYSTEM PROTECTION & HIGH VOLTAGE LABORATORY ODD: Project Phase <input type="checkbox"/>      | 30  | • 50kV AC/DC Transformer • Control Panel • Transformer oil tester • PIV Rectifier • Solid state over <input type="checkbox"/> | ODD: 8 Hours   | Mr. Rajesh B K              | Lab Instructor | I.T.I, Diploma |

|   |  |    |  |               |                          |                |                            |
|---|--|----|--|---------------|--------------------------|----------------|----------------------------|
| 3 | SCHNEIDER INDUSTRIAL AUTOMATION LABORATORY EVEN: Industrial Automation | 20 | INDUSTRIAL AUTOMATION • Control Panel Training kit for HMI, SCADA & PLC • Fire Alarm System •          | ODD: 24 Hours | Mr. Narasimha Murthy.P.S | Lab Instructor | I.T.I, Diploma             |
| 4 | CONTROL & MEASUREMENTS LABORATORY ODD: Control Systems                 | 30 | • Lag and Lead network unit • Single phase Auto Transformer • DC Servo motor • 2 Phase AC Servomotor • | ODD: 12 Hours | Ms. Rajeshwari. K        | Foremen        | Diploma, B.Tech, M.B.A     |
| 5 | POWER SYSTEM SIMULATION LABORATORY ODD: Power System Analysis          | 30 | • Desktop Computers  | ODD: 12 Hours | Mr. Megha Sandesh.B.P    | Lab Instructor | Diploma, B.E, M.Tech (Purs |
| 6 | ANALOG AND MICROCONTROLLER LABORATORY ODD: Microcontroller             | 30 | ANALOG • Signal generator (2MHz) • 20MHz Dual Trace CRO • Regulated DC Power Supply (0-30V)            | ODD : 8 Hours | Mr. Venkatesha.S         | Lab Instructor | Diploma, B.E               |
| 7 | DIGITAL AND POWER ELECTRONICS LABORATORY ODD: Elements of Electrical   | 30 | • IGBT study unit • UJT firing circuit • Force Commutation study unit • DC chopper circuit •           | ODD: 8 Hours  | Ms. Soumya               | Lab Instructor | B.E, M.Tech                |
| 8 | ELECTRIC CIRCUIT & RESEARCH LABORATORY ODD: Electric Circuits theory   | 30 | • Desktop Computers • Regulated DC • Power Supply (0-30V) • Dual trace CRO • Function Generator        | ODD: 12 Hours | Mr. Rakheekundu          | Lab Instructor | B.E                        |

## D2. Safety Measures in Laboratories

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

| Sr. No | Laboratory Name  | Safety Measures   |
|--------|--|---|
| 1      | Electrical Machines Laboratory (DC Machines & Transformers / Synchronous & Induction Machines) | A. Basic Safety Measures: First Aid Box & Fire Extinguisher; MCB, RCBO, fuses; proper earthing; safety instructions & Do's/Don'ts displayed; periodic maintenance; clean and organized lab. B. Lab-Specific: Safe handling of high-power rotating machines; insulated terminals; proper supervision; correct fuse ratings and calibrated equipment. |
| 2      | Power System Protection & High Voltage Laboratory  | A. Basic Safety Measures: First Aid & Fire Extinguisher; electrical protection (MCB/RCBO); proper grounding; safety instructions displayed; maintenance and housekeeping. B. Lab-Specific: High-voltage safety protocols; restricted access; insulated platforms; protective devices; supervised operation.   |
| 3      | Schneider Industrial Automation Laboratory   | A. Basic Safety Measures: First Aid & Fire Extinguisher; electrical protection systems; instructions displayed; maintenance and cleanliness. B. Lab-Specific: PLC-based interlocks; automation safety controls; restricted mobile usage; safe handling of control panels and industrial systems.  |
| 4      | Control and Measurements Laboratory  | A. Basic Safety Measures: First Aid & Fire Extinguisher; MCB/RCBO protection; grounding; safety instructions displayed; maintenance and cleanliness. B. Lab-Specific: Calibration of precision instruments; safe handling of measurement devices; proper wiring and signal handling.  |
| 5      | Power System Simulation Laboratory   | A. Basic Safety Measures: First Aid & Fire Extinguisher; electrical safety; housekeeping; instructions displayed. B. Lab-Specific: Software-based experiments minimizing electrical hazards; updated computer systems; proper cable management.   |

|   |  |   |
|---|--|---|
| 6 | Analog and Microcontroller Laboratory    | A. Basic Safety Measures: First Aid & Fire Extinguisher; electrical protection systems; maintenance; instructions displayed; clean environment. B. Lab-Specific: Low-voltage safety; safe handling of ICs and microcontroller kits; proper interfacing practices.         |
| 7 | Digital and Power Electronics Laboratory | A. Basic Safety Measures: First Aid & Fire Extinguisher; MCB/RCBO/fuses; grounding; maintenance; instructions displayed. B. Lab-Specific: Safe handling of power electronic devices; proper insulation; heat dissipation precautions; controlled switching operations.    |
| 8 | Electric Circuit & Research Laboratory   | A. Basic Safety Measures: First Aid & Fire Extinguisher; electrical protection; maintenance; safety instructions displayed; clean lab. B. Lab-Specific: Low-voltage experimental safety; proper wiring; controlled testing environment; safe usage of research equipment. |

**D3. Project Laboratory/Research Laboratory**

### 7.5.1 Project laboratory/research laboratory

The Department of Electrical and Electronics Engineering has established a dedicated **Research and Development Laboratory** to promote innovation, interdisciplinary research, product development, and outcome-based technical learning among students and faculty members. Further strengthening the research ecosystem, the department is also recognized as a **VTU Research Centre**, enabling faculty members and research scholars to pursue doctoral research activities under the affiliation of **Visvesvaraya Technological University**.

The Research Centre supports advanced experimentation, modelling, simulation, prototype development and validation in emerging areas of Electrical and Electronics Engineering and facilitates:

- Doctoral (Ph.D.) research activities under VTU.
- Collaborative research among faculty members, research scholars and students.
- Publication of research papers, patents and consultancy activities.
- Development of innovative solutions for industrial and societal applications.
- Mini projects, major projects and interdisciplinary research initiatives.
- Skill enhancement through advanced software and hardware facilities.

The department has developed a vibrant R&D environment through dedicated infrastructure and domain-focused laboratories to support academic excellence and research outcomes.

#### Divisions under R&D:

- Power Electronics and Drives
- Power and Energy Systems
- Embedded Systems
- Industrial Automation and Control Systems
- Electric Vehicle Systems (EVS) and Sustainable Mobility

The laboratory facilities and VTU Research Centre activities contribute significantly toward attainment of **Program Outcomes (POs)** and **Program Specific Outcomes (PSOs)** by promoting problem-solving ability, design competency, experimentation, innovation, teamwork and lifelong learning.

#### Research Centre Utilization

The VTU Research Centre and R&D Laboratory are utilized by:

- Research Scholars (Ph.D.)
- Faculty Members
- Undergraduate Students (UG)
- Collaborative Research Teams

The facilities support activities including research publications, funded projects, consultancy, project development, simulation studies, prototype development and technology-driven innovation.

**Table 7.5.1.1: List of Project laboratory (Facility, Utilization and Relevance of POs and PSOs)**

| SI No | Lab Name                            | Details   | Facility in the Lab  | Utilization  | Relevance's to POs and PSOs                          |
|-------|-------------------------------------|---|--|--|--|
| 1     | <b>Project Laboratory<br/>B 002</b> | Dedicated project development laboratory supporting UG student projects and prototype development | Digital Storage Oscilloscope (DSO), Project Development Workspace, Testing and Measurement Facilities, 3D Printing machine | Utilized by UG students for mini projects, capstone projects, hardware implementation, testing and validation activities | PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PSO1, PSO2 |

|          |                                      |  |   |   |                      |
|----------|--------------------------------------|--|---|---|----------------------|
| <b>2</b> | <b>Research laboratory<br/>B 217</b> | Research and innovation facility equipped for simulation, modelling, design and experimental studies | Smart Grid Simulator, Microcontroller based load controller, Solar Array Simulator, DSOs<br><br>19 Computer Systems, MATLAB, Mi Power, LT Spice, AutoCAD and domain-specific software tools | Utilized by UG students, faculty members and research scholars for mini projects, major projects, publications, consultancy and research activities | PO1-PO11, PSO1, PSO2 |
|----------|--------------------------------------|--|---|---|----------------------|

**Table 7.5.1.2 Software Facilities in Research and Development Laboratory**

| <b>Name of Software</b>               | <b>Description</b> | <b>Licensed/Open Source</b> |
|---------------------------------------|--------------------|-----------------------------|
| Mi Power                              | Version - 6        | Licensed                    |
| Ngspice                               | Version – 45.2     | Open Source                 |
| Arduino IDE                           | Version - 2.3.7    | Open Source                 |
| Keil                                  | Version – 5.43 a   | Open Source                 |
| Unity Pro                             | Version - 1.1      | Licensed                    |
| Vijeo Designer                        | Version - 6.2      | Licensed                    |
| Python                                | Version - 3.14.2   | Open Source                 |
| Building Expert (Building Automation) | Version - 2020     | Licensed                    |
| SCADA (Vijeo SciTect)                 | Version - 7.50     | Licensed                    |
| FX-Net (Fire Alarm)                   | Version - 7.4      | Licensed                    |
| DNS (CCTV)                            | Version - 2017     | Licensed                    |
| C-BUS (Home Automation)               | Version - 1.15.5   | Licensed                    |
| MATLAB                                | Version – 2025 a   | Licensed                    |
| Tinkercad                             | NA                 | Online Platform             |
| Dev C++                               | Version - 5.50     | Open Source                 |
| Blue JAVA                             | Version - 5.5.0    | Open Source                 |
| Intel Quartus                         | Version - 25.3.1   | Open Source                 |

|  |                    |             |
|--|--------------------|-------------|
| KiCad                                    | Version – 8.0.x    | Open Source |
| OpenDSS – Distribution System Simulator  | Version - 11.0.0.1 | Open Source |
| PyPSA (Python for Power System Analysis) | Version - 1.0.5    | Open Source |
| Scilab                                   | Version - 2026.0.0 | Open Source |
| Turbo C++                                | Version - 5.0.0.4  | Open Source |
| Code::Blocks                             | Version – 20.03    | Open Source |

*(Licensed and Open-Source software platforms are maintained and updated periodically to support academic and research requirements.)*

**Table 7.5.1.3 Hardware Facilities in Research and Development Laboratory**

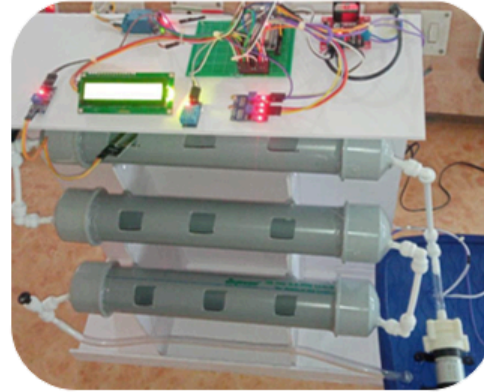
| Sl. No | Name of the Equipment   |
|--------|---|
| 1      | 50 kV, 50 mA Testing Transformer, 70 kV, 175 kV Rectifier 70 kV high voltage filter 70 kV high voltage resistance divider with control panel with safety interlock to conduct AC/DC test, 60 kV oil test kit with all accessories |
| 2      | Motor Protection study unit with LG relay   |
| 3      | Microprocessor based over current relay   |
| 4      | Static under voltage relay  |
| 5      | Micro controller-based relay negative sequence relay  |
| 6      | Microprocessor based under Voltage relay  |
| 7      | Generator Protection simulation unit P-SU-GP  |
| 8      | Numerical % Differential relay test kit   |
| 9      | PLC & HMI Training Kit  |
| 10     | Surface Treatment Operative Part  |
| 11     | M 340 Surface Treatment Operative Part  |
| 12     | PLC Small Term License  |

|    |  |
|----|--|
| 13 | Addressable Fire Security Bench                          |
| 14 | Access Control, CCTV and Public Address Systems Bench    |
| 15 | Home Automation Bench and SCADA Training Kit             |
| 16 | Integrated Building and energy Management solution Bench |
| 17 | 3D printing Machine                                      |

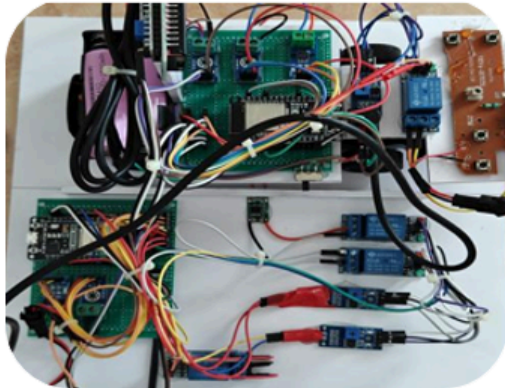
**7.5.1.4 Photographs of Project/Product Developed in Project and Research Lab**



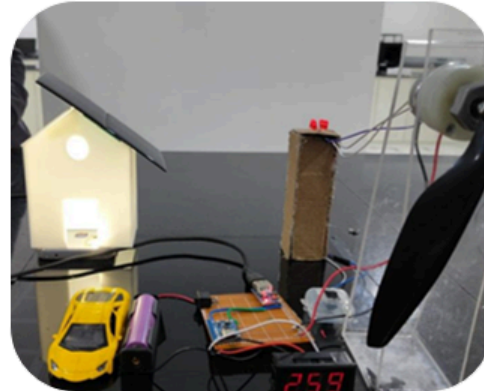
Neuro Bike



Smart Multi – Level Hydroponic Farming Chamber for Space



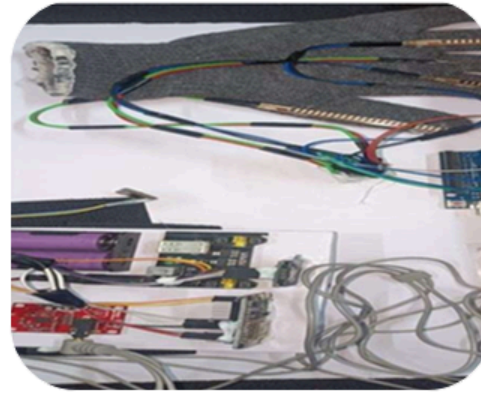
WIRELESS EV CHARGER



Bidirectional EV Charging



Autonomous Outdoor Cleaning Robot



Smart Assistive Health Monitoring system



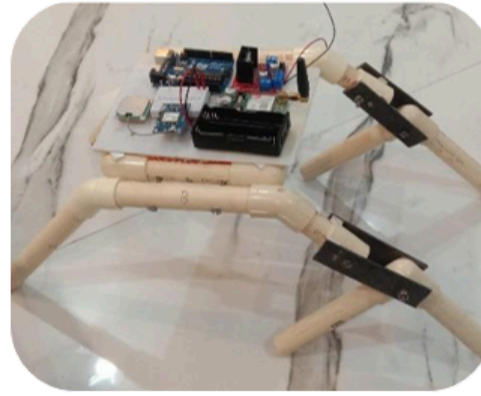
E-BIKE



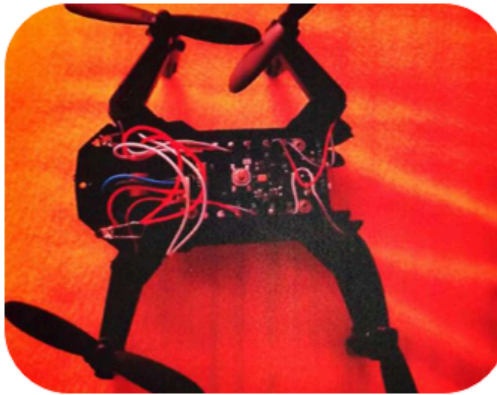
Humanoid Robot



Autonomous Quadbikes



Rescue Rover



COMBAT SURVEILLANCE DRONE

QUAD CHAIR PRO - SPORTS  
WHEELCHAIR

### 7.5.2 Centre of Excellence

The Department of Electrical and Electronics Engineering has established a **Centre of Excellence (CoE) in Industrial Automation and Building Automation** to strengthen industry-oriented learning, advanced technical skills, experiential education and research culture among students and faculty members. The CoE provides exposure to emerging technologies through structured coursework, hands-on training, project implementation and industry interaction.

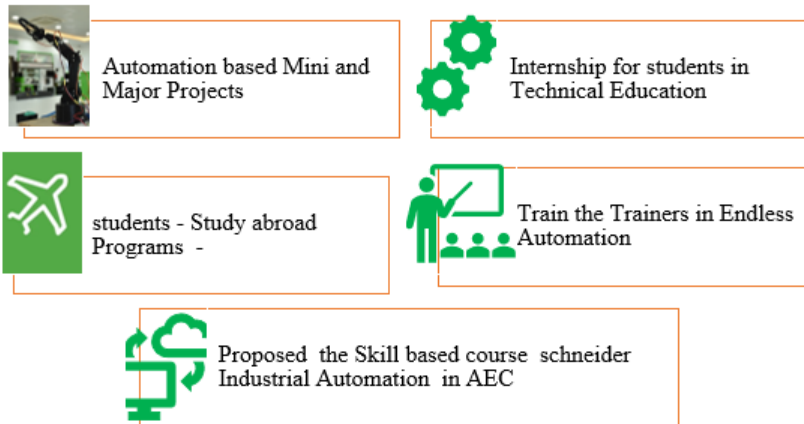
The Centre supports academic delivery, certification programs, internships, faculty development activities and project-based learning aligned with industry requirements.



**Utilization per Year**

| Courses Offered  | Type                                  | Batches/week | Batch Size                    |
|--|---------------------------------------|--------------|-------------------------------|
| Advanced Industrial Automation and Building Automation | Professional elective                 | 6            | <b>20 Students/<br/>Batch</b> |
| Industrial Automation                                  | Open Elective & Professional Elective | 9            |                               |

**Unique and Promotional Activities**





*Students - Study abroad Programs*



*Automation based Mini and Major Projects*

### 7.5.2 Centre of Excellence Utilization through Open Elective Courses

In addition to the Department-specific Centre of Excellence in Industrial Automation and Building Automation, EEE students actively utilize various institutional Centres of Excellence through Open Elective courses. These courses provide opportunities for interdisciplinary learning, exposure to emerging technologies and enhancement of industry-relevant skills.

**AY 2025-26 (Odd Semester):**

| Sl. No. | Course Code | Open Elective Course     | No. of EEE Students | Relevant POs                  | Relevant PSOs |
|---------|-------------|--------------------------|---------------------|-------------------------------|---------------|
| 1       | 23NHOP711   | VLSI Physical Design – I | 80                  | PO1, PO2, PO3, PO4, PO5, PO11 | PSO1, PSO2    |
| 2       | 23NHOP715   | Advanced Networking      | 7                   | PO1, PO2, PO4, PO5, PO8, PO11 | PSO2          |

|   |           |                                    |            |                                |            |
|---|-----------|------------------------------------|------------|--------------------------------|------------|
| 3 | 23NHOP704 | Product Life Cycle Management      | 3          | PO3, PO5, PO7, PO8, PO10, PO11 | PSO2       |
| 4 | 23NHOP703 | SAP                                | 3          | PO4, PO5, PO8, PO10, PO11      | PSO2       |
| 5 | 23NHOP705 | Industry 4.0                       | 3          | PO1, PO3, PO4, PO5, PO7, PO11  | PSO1, PSO2 |
| 6 | 23NHOP701 | Data Analytics using R Programming | 3          | PO1, PO2, PO4, PO5, PO11       | PSO2       |
| 7 | 23NHOP707 | CISCO – Routing & Switching – I    | 2          | PO1, PO2, PO4, PO5, PO8, PO11  | PSO2       |
|   |           | <b>Total</b>                       | <b>101</b> |                                |            |

**AY 2025-26 (Even Semester):**

All eligible EEE students opted for the Open Elective course offered through the Centre of Excellence in Industrial Automation and Building Automation (Schneider Electric)-Course Code: 25NHOP606.

The participation of EEE students in various Centres of Excellence demonstrates the departments commitment towards multidisciplinary learning, industry-oriented education and skill development. The exposure gained through these courses enables students to acquire knowledge in emerging areas such as VLSI Design, Networking, Product Lifecycle Management, Enterprise Resource Planning (SAP), Industry 4.0, Data Analytics and Industrial Automation.

**Impact of Centre of Excellence Activities**

The Centres of Excellence have contributed significantly to:

- Enhancement of practical and industry-relevant technical skills.
- Exposure to emerging technologies and current industrial practices.
- Promotion of interdisciplinary and lifelong learning.
- Improvement in project quality and innovation capabilities.
- Strengthening of industry-academia interaction.
- Increased student participation in certification programs and internships.
- Better preparedness for placements and higher studies.

## 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))/RF |
|------|---|-------------------------------------|---|---|---|
|      |   |                                     |   |   |   |

|                |      |    |    |    |    |
|----------------|------|----|----|----|----|
| 2023-24(CAYm2) | 1200 | 60 | 39 | 18 | 58 |
| 2024-25(CAYm1) | 1200 | 60 | 40 | 30 | 63 |
| 2025-26(CAY)   | 1260 | 63 | 41 | 38 | 64 |

## 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 2025-26 | Actual Expenses in 2025-26 till | Budgeted in 2024-25 | Actual Expenses in 2024-25 till | Budgeted in 2023-24 | Actual Expenses in 2023-24 till | Budgeted in 2022-23 | Actual Expenses in 2022-23 till |
|--|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|
| Infrastructure Built-Up                  | 158569012           | 145476158                       | 139481415           | 129149458                       | 144300183           | 132385489                       | 105839559           | 97100513                        |
| Library                                  | 14630295            | 13422289                        | 7364915             | 6819366                         | 12546656            | 11510694                        | 12320019            | 11302770                        |
| Laboratory equipment                     | 15365048            | 14096374                        | 28930193            | 26787216                        | 56639593            | 51962929                        | 29807163            | 27346021                        |
| Teaching and non-teaching staff salary   | 563936414           | 517372857                       | 538361861           | 498483205                       | 521266219           | 478225889                       | 479781945           | 440166922                       |
| Outreach Programs                        | 9527492             | 8740818                         | 3862740             | 3576611                         | 1400374             | 1284747                         | 2005695             | 1840087                         |
| R&D                                      | 13266610            | 12171202                        | 5091473             | 4714327                         | 5647642             | 5181323                         | 8153190             | 7479991                         |
| Training, Placement and Industry linkage | 18217993            | 16713755                        | 13490502            | 12491206                        | 18439000            | 16916514                        | 27490696            | 25220822                        |
| SDGs                                     | 1624634             | 1490490                         | 9686104             | 8968615                         | 880162              | 807488                          | 301370              | 276486                          |
| Entrepreneurship                         | 8983841             | 8242056                         | 279917              | 259182                          | 5249868             | 4816393                         | 327000              | 300000                          |
| Others, specify                          | 329333283           | 302140627                       | 150287257           | 139154868                       | 195247423           | 179126076                       | 207765032           | 190610121                       |
| <b>Total</b>                             | <b>1133454622</b>   | <b>1039866626</b>               | <b>896836377</b>    | <b>830404054</b>                | <b>961617120</b>    | <b>882217542</b>                | <b>873791669</b>    | <b>801643733</b>                |

## 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 2025-26 | Actual Expenses in 2025-26 till | Budgeted in 2024-25 | Actual Expenses in 2024-25 till | Budgeted in 2023-24 | Actual Expenses in 2023-24 till | Budgeted in 2022-23 | Actual Expenses in 2022-23 till |
|----------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|
| Laboratory equipment | 905984              | 808914                          | 2270592             | 2027315                         | 4469062             | 3990234                         | 2347817             | 2096266                         |

|  |                 |                 |                 |                 |                 |                 |                 |                 |
|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Software   | 212515          | 189745          | 46339           | 41374           | 68057           | 60765           | 123569          | 110330          |
| SDGs   | 118265          | 105594          | 775731          | 692617          | 70505           | 62951           | 52100           | 46518           |
| Support for faculty development                  | 193149          | 172454          | 81552           | 72814           | 90481           | 80787           | 135200          | 120715          |
| R & D  | 772594          | 689816          | 326208          | 291258          | 361924          | 323146          | 540801          | 482858          |
| Industrial Training, Industry expert, Internship | 1326179         | 1184088         | 1080413         | 964655          | 1477058         | 1318801         | 2279323         | 2035110         |
| Miscellaneous Expenses*                          | 25321351        | 22608349        | 12367821        | 11042697        | 16173028        | 14440203        | 17434578        | 15529123        |
| <b>Total</b>                                     | <b>28850037</b> | <b>25758960</b> | <b>16948656</b> | <b>15132730</b> | <b>22710115</b> | <b>20276887</b> | <b>22913388</b> | <b>20420920</b> |