

**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> : Mechanical Engineering | <b>Discipline</b> : Engineering & Technology |
| <b>Level</b> : Under Graduate                | <b>Tier</b> : 1                              |
| <b>Application No</b> : 10440                | <b>Date of Submission</b> : 22-03-2025       |

**PART A- Profile of the Institute**

|  |                                      |
|--|--------------------------------------|
| <b>A1.Name of the Institute:</b> ST. JOSEPH'S COLLEGE OF ENGINEERING             |                                      |
| Year of Establishment : 1994   | Location of the Institute: Chennai   |
| <b>A2. Institute Address:</b> JAPPIAAR NAGAR, OLD MAMALLAPURAM ROAD, CHEMMACHERY |                                      |
| City:Chennai   | State:Tamil Nadu                     |
| Pin Code:600119  | Website:www. stjosephs.ac.in         |
| Email:JPRSTJOSEPHS@STJOSEPHS.AC.IN   | Phone No(with STD Code):044-24503237 |
| <b>A3. Name and Address of the Affiliating University (if any):</b>              |                                      |
| Name of the University : ANNA UNIVERSITY OF TECHNOLOGY CHENNAI                   | City: Chennai                        |
| State : Tamil Nadu   | Pin Code: 600119                     |
| <b>A4. Type of the Institution:</b> Autonomous CAY(2020-21)                      |                                      |
| <b>A5. Ownership Status:</b> Self financing                                      |                                      |

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

- No. of UG programs: **13**
- No. of PG programs: **6**

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      | Engineering & Technology | PG               | Applied Electronics                               | 2003          | 2024           | Electronics and Communication Engineering         |
| 2      | Engineering & Technology | UG               | Artificial Intelligence and Data Science          | 2021          | --             | Artificial Intelligence and Data Science          |
| 3      | Engineering & Technology | UG               | Artificial Intelligence and Machine Learning      | 2021          | --             | Artificial Intelligence and Machine Learning      |
| 4      | Engineering & Technology | PG               | Biotechnology                                     | 2013          | 2024           | Biotechnology                                     |
| 5      | Engineering & Technology | UG               | Biotechnology                                     | 2002          | --             | Biotechnology                                     |
| 6      | Engineering & Technology | UG               | Chemical Engineering                              | 1994          | --             | Chemical Engineering                              |
| 7      | Engineering & Technology | UG               | Civil Engineering                                 | 2014          | 2026           | Civil Engineering                                 |
| 8      | Engineering & Technology | PG               | Computer Science and Engineering                  | 2004          | --             | Computer Science and Engineering                  |
| 9      | Engineering & Technology | UG               | Computer Science and Engineering                  | 1995          | --             | Computer Science and Engineering                  |
| 10     | Engineering & Technology | UG               | Computer Science and Engineering (Cyber Security) | 2024          | --             | Computer Science and Engineering (Cyber Security) |
| 11     | Engineering & Technology | UG               | Electrical and Electronics Engineering            | 1996          | --             | Electrical and Electronics Engineering            |
| 12     | Engineering & Technology | UG               | Electronics & Communication Engineering           | 1994          | --             | Electronics and Communication Engineering         |
| 13     | Engineering & Technology | UG               | Electronics & Instrumentation Engineering         | 1999          | 2026           | Electronics and Instrumentation Engineering       |
| 14     | Engineering & Technology | UG               | Information Technology                            | 1997          | --             | Information Technology                            |

|    |                          |    |                                    |      |      |  |
|----|--------------------------|----|------------------------------------|------|------|--|
| 15 | Engineering & Technology | PG | Manufacturing Engineering          | 2013 | 2024 | Mechanical Engineering                 |
| 16 | Engineering & Technology | UG | Mechanical Engineering             | 1998 | --   | Mechanical Engineering                 |
| 17 | Engineering & Technology | UG | Mechatronics Engineering           | 2024 | --   | Mechatronics Engineering               |
| 18 | Engineering & Technology | PG | Power Electronics and Drives       | 2003 | 2024 | Electrical and Electronics Engineering |
| 19 | Management               | PG | Masters in Business Administration | 1995 | --   | 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 |
|--|---------------------------|--|---------------|
| Computer Science and Engineering       | Yes                       | Computer Science and Engineering       | UG            |
| Electrical and Electronics Engineering | No                        | Electrical and Electronics Engineering | UG            |
| Mechanical Engineering                 | Yes                       | Mechanical 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)

| Allied Department/Cluster Name | Program Name             | Program Level |
|--------------------------------|--------------------------|---------------|
| Mechatronics Engineering       | Mechatronics Engineering | UG            |

## 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 ARROVAL DETAILS                 | ACCREDITATION STATUS   | FROM | TO   | NO. OF TIMES PROGRAM ACCREDITED | PROGRAM DURATION |
|--------|------------------------|-----------------------|--------------------------------|-------------------|-----------------------------------|---------------------------|----------------|------------------------|---|--|------|------|---------------------------------|------------------|
| 1      | Mechanical Engineering | UG                    | 1998 / --                      | 40                | Yes                               | 2024                      | 90             | 2024                   | F.No. Southern/I-43661065444/2024/EOA dated on 19.05.2024 | Granted provisional accreditation for two years for the period(specify period) | 2022 | 2025 | 5                               | 4                |

**Sanctioned Intake for Last Five Years for the Manufacturing Engineering**

| Academic Year | Sanctioned Intake |
|---------------|-------------------|
| 2024-25       | 90                |
| 2023-24       | 180               |
| 2022-23       | 180               |
| 2021-22       | 180               |
| 2020-21       | 180               |
| 2019-20       | 180               |

List of the Allied Departments/Cluster and Programs:

| SR.NO. | ALLIED DEPARTMENT NAME   | 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 ARROVAL DETAILS                 | ACCREDITATION STATUS           | FROM | TO | NO. OF TIMES PROGRAM ACCREDITED | PROGRAM DURATION |
|--------|--------------------------|--------------------------|-----------------------|--------------------------------|-------------------|-----------------------------------|---------------------------|----------------|------------------------|---|--------------------------------|------|----|---------------------------------|------------------|
| 1      | Mechatronics Engineering | Mechatronics Engineering | UG                    | 2024 / --                      | 30                | No                                | NA                        | 30             | 2024                   | F.No. Southern/I-43661065444/2024/EOA dated on 19.05.2024 | Not eligible for accreditation | --   | -- | 0                               | 4                |

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

|                           |                    |
|---------------------------|--------------------|
| A. Name of the HoD :      | Dr. L. Balamurugan |
| 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)  | 2024-25 (CAY) | 2023-24 (CAYm1) | 2022-23 (CAYm2) | 2021-22 (CAYm3) | 2020-21 (CAYm4) | 2019-20 (CAYm5) | 2018-19 (CAYm6) |
|--|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| N=Sanctioned intake of the program (as per AICTE /Competent authority)   | 90            | 180             | 180             | 180             | 180             | 180             | 180             |
| 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 | 79            | 133             | 131             | 150             | 147             | 160             | 186             |
| N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats  | 0             | 5               | 11              | 15              | 35              | 21              | 19              |
| 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.                                      | 79            | 138             | 142             | 165             | 182             | 181             | 205             |

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] |
|-----------------|--------------------|---------------------|---------------------|-------------------------------|
| 2024-25 (CAY)   | 90                 | 0                   | 0                   | 87.78                         |
| 2023-24 (CAYm1) | 180                | 0                   | 0                   | 73.89                         |
| 2022-23 (CAYm2) | 180                | 0                   | 0                   | 72.78                         |

Average [ (ER1 + ER2 + ER3) / 3 ] = 78.15≅ 14.00

**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  | (2020-21) LYG | (2019-20) LYGm1 | (2018-19) 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). | 179.00        | 181.00          | 191.00          |
| B=No. of students who graduated from the program in the stipulated course duration  | 135.00        | 166.00          | 171.00          |
| Success Rate (SR)= (B/A) * 100  | 75.42         | 91.71           | 89.53           |

Average SR of three batches ((SR\_1+ SR\_2+ SR\_3)/3): 85.55

**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( 2023-24 ) | CAYm2( 2022-23 ) | CAYm3 ( 2021-22 ) |
|---|------------------|------------------|-------------------|
| Mean of CGPA or mean percentage of all successful students(X) | 7.92             | 8.02             | 7.92              |
| Y=Total no. of successful students                            | 73.00            | 88.00            | 103.00            |
| Z=Total no. of students appeared in the examination           | 133.00           | 131.00           | 150.00            |

|               |      |      |      |
|---------------|------|------|------|
| API [X*(Y/Z)] | 4.35 | 5.39 | 5.44 |
|---------------|------|------|------|

Average API [ (AP1+AP2+AP3)/3 ] : 5.06

**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 ( 2023-24 ) | CAYm2 ( 2022-23 ) | CAYm3 ( 2021-22 ) |
|--|-------------------|-------------------|-------------------|
| 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) | 8.01              | 8.06              | 8.73              |
| Y=Total no. of successful students   | 99.00             | 113.00            | 135.00            |
| Z=Total no. of students appeared in the examination  | 99.00             | 118.00            | 176.00            |
| API [ X * (Y/Z) ]  | 8.01              | 7.72              | 6.69              |

Average API [ (AP1 + AP2 + AP3)/3 ] : 7.47

**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 (2023-24) | CAYm2 (2022-23) | CAYm3 (2021-22) |
|--|-----------------|-----------------|-----------------|
| 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) | 8.17            | 8.49            | 8.61            |
| Y=Total no. of successful students   | 104.00          | 135.00          | 166.00          |
| Z=Total no. of students appeared in the examination  | 113.00          | 135.00          | 173.00          |
| API [ X*(Y/Z) ]:   | 7.52            | 8.49            | 8.27            |

Average API [ (AP1 + AP2 + AP3)/3 ] : 8.09

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

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

| Item  | LYG (2020-21) | LYGm1(2019-20) | LYGm2(2018-19) |
|---|---------------|----------------|----------------|
| FS*=Total no. of final year students                | 215.00        | 201.00         | 199.00         |
| X=No. of students placed                            | 138.00        | 132.00         | 110.00         |
| Y=No. of students admitted to higher studies        | 15.00         | 18.00          | 36.00          |
| Z=Total no. of students appeared in the examination | 2.00          | 3.00           | 7.00           |
| Placement Index(P) = (((X + Y + Z)/FS) * 100):      | 72.09         | 76.12          | 76.88          |

Average Placement Index = (P\_1 + P\_2 + P\_3)/3: 75.03 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. Vaddi Seshagiri Rao | XXXXXX67L | Ph.D           | JNN TECHNICAL UNIVERSITY | ROBITIC WELDING        | 08/06/1995                          | 29.9                                     | Lecturer  | Professor           | 01/06/2005  | Regular   | Yes                        |                                | No      |
| 2     | Dr. N. Arunkumar        | XXXXXX92G | Ph.D           | ANNA UNIVERSITY          | Production Engineering | 01/06/2000                          | 24.9                                     | Lecturer  | Professor           | 01/06/2007  | Regular   | Yes                        |                                | No      |

|    |                          |            |            |  |                                   |            |      |                     |                     |            |         |     |  |     |
|----|--------------------------|------------|------------|--|-----------------------------------|------------|------|---------------------|---------------------|------------|---------|-----|--|-----|
| 3  | Dr. L. Balamurugan       | XXXXXXX61A | Ph.D       | ANNA UNIVERSITY  | Computer Aided Design             | 17/06/2009 | 15.9 | Lecturer            | Associate Professor | 03/06/2013 | Regular | Yes |  | Yes |
| 4  | Dr. R. Sathish           | XXXXXXX74D | Ph.D       | SRI CHANDRASEKHAR ENDRA SARASWATHI VISWA MAHAVIDYALAYA | Manufacturing Engineering         | 18/06/2007 | 17.9 | Assistant Professor | Professor           | 02/07/2022 | Regular | Yes |  | No  |
| 5  | Dr. K. M. Kumar          | XXXXXXX74B | Ph.D       | ANNA UNIVERSITY  | Computer Aided Design             | 08/01/2007 | 18.2 | Lecturer            | Associate Professor | 01/06/2010 | Regular | Yes |  | No  |
| 6  | Dr. K. Arun              | XXXXXXX87C | Ph.D       | ANNA UNIVERSITY  | ENERGY ENGINEERING                | 10/08/2010 | 14.7 | Assistant Professor | Associate Professor | 13/06/2013 | Regular | Yes |  | No  |
| 7  | Dr. R. Selvam            | XXXXXXX94F | Ph.D       | ANNA UNIVERSITY  | Engineering Design                | 21/08/2006 | 18.7 | Lecturer            | Associate Professor | 01/06/2011 | Regular | Yes |  | No  |
| 8  | Dr. N.E. Arun Kumar      | XXXXXXX97D | Ph.D       | ANNA UNIVERSITY  | Computer Integrated Manufacturing | 01/07/2013 | 11.8 | Associate Professor | Associate Professor | 01/07/2013 | Regular | Yes |  | No  |
| 9  | Dr. G. M. Lionus Leo     | XXXXXXX54E | Ph.D       | ANNA UNIVERSITY  | Thermal Engineering               | 27/08/2009 | 15.6 | Lecturer            | Associate Professor | 01/07/2022 | Regular | Yes |  | No  |
| 10 | Dr. M. Arun              | XXXXXXX11B | Ph.D       | ANNA UNIVERSITY  | MANUFACTURING ENGINEERING         | 07/06/2006 | 18.9 | Lecturer            | Assistant Professor |            | Regular | Yes |  | No  |
| 11 | Dr. T. Gavaskar          | XXXXXXX53P | Ph.D       | ANNA UNIVERSITY  | ENERGY ENGINEERING                | 02/01/2007 | 18.2 | Lecturer            | Assistant Professor |            | Regular | Yes |  | No  |
| 12 | Mr. J. Mariyappan        | XXXXXXX90G | M.E/M.Tech | ANNA UNIVERSITY  | ENERGY ENGINEERING                | 05/01/2007 | 18.2 | Lecturer            | Assistant Professor |            | Regular | Yes |  | No  |
| 13 | Mr. A. S. M. Udayakumar  | XXXXXXX17H | M.E/M.Tech | ANNA UNIVERSITY  | Computer Aided Design             | 01/08/2008 | 16.7 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 14 | Mr. J. Vijayanand        | XXXXXXX73G | M.E/M.Tech | SATYABAMA UNIVERSITY                                   | Computer Aided Design             | 13/06/2012 | 12.9 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 15 | Mr. K. M. B. Karthikeyan | XXXXXXX45L | M.E/M.Tech | ANNA UNIVERSITY  | Engineering Design                | 06/08/2012 | 12.7 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 16 | Mr. G. Kasirajan         | XXXXXXX65R | M.E/M.Tech | ANNA UNIVERSITY  | COMPUTER AIDED DESIGN             | 01/07/2013 | 11.8 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 17 | Mr. M. Subramanian       | XXXXXXX70N | M.E/M.Tech | ANNA UNIVERSITY  | COMPUTER AIDED DESIGN             | 01/07/2013 | 11.8 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 18 | Mr. T. Balasubramanian   | XXXXXXX51E | M.E/M.Tech | ANNA UNIVERSITY  | PRODUCT DESIGN AND DEVELOPMENT    | 01/07/2013 | 11.8 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 19 | Mr. P. Premkumar         | XXXXXXX77J | M.E/M.Tech | ANNA UNIVERSITY  | CAD/CAM                           | 01/07/2013 | 11.8 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 20 | Dr. M. Ganesh            | XXXXXXX27Q | Ph.D       | ANNA UNIVERSITY  | CAD/CAM                           | 01/08/2013 | 11.7 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 21 | Mr. A. Ruskin Bruce      | XXXXXXX02R | M.E/M.Tech | ANNA UNIVERSITY  | MANUFACTURING ENGINEERING         | 01/08/2013 | 11.7 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 22 | Mr. Muninathan K         | XXXXXXX99F | M.E/M.Tech | ANNA UNIVERSITY  | ENERGY ENGINEERING                | 23/07/2014 | 10.7 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 23 | Mr. M. Siva              | XXXXXXX14K | M.E/M.Tech | ANNA UNIVERSITY  | MANUFACTURING ENGINEERING         | 28/07/2014 | 10.7 | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 24 | Mr. K. Elakkiyadasan     | XXXXXXX43J | M.E/M.Tech | ANNA UNIVERSITY  | MANUFACTURING ENGINEERING         | 17/06/2015 | 9.9  | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |
| 25 | Mr. N. Sathish Kumar     | XXXXXXX66M | M.E/M.Tech | ANNA UNIVERSITY  | Computer Integrated Manufacturing | 01/08/2016 | 8.7  | Assistant Professor | Assistant Professor |            | Regular | Yes |  | No  |

|    |                            |             |            |                      |   |            |       |                     |                     |            |         |     |            |    |
|----|----------------------------|-------------|------------|----------------------|---|------------|-------|---------------------|---------------------|------------|---------|-----|------------|----|
| 26 | Mr. D. Sakthivel           | XXXXXXXX00A | M.E/M.Tech | ANNA UNIVERSITY      | Thermal Engineering                       | 15/07/2022 | 2.8   | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 27 | Mr. K. Gnanasekaran        | XXXXXXXX02C | M.E/M.Tech | ANNA UNIVERSITY      | Manufacturing Engineering                 | 01/06/2024 | 0.9   | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 28 | Dr. R. George Sahaya Nixon | XXXXXXXX45Q | Ph.D       | SATYABAMA UNIVERSITY | CAD/CAM                                   | 18/06/2007 | 17.9  | Lecturer            | Associate Professor | 02/06/2014 | Regular | Yes |            | No |
| 29 | Mr.G.Ashwin Prabhu         | XXXXXXXX20D | M.E/M.Tech | ANNA UNIVERSITY      | Engineering Design                        | 17/06/2015 | 9.9   | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 30 | Mr. R. Ranga Raja          | XXXXXXXX68G | M.E/M.Tech | ANNA UNIVERSITY      | ENERGY ENGINEERING                        | 22/06/2015 | 9.8   | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 31 | Mr. K. Pravin Kumar        | XXXXXXXX28J | M.E/M.Tech | ANNA UNIVERSITY      | PRODUCTION ENGINEERING                    | 03/08/2015 | 9.7   | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 32 | Dr. S. Arivazhagan         | XXXXXXXX05A | Ph.D       | ANNA UNIVERSITY      | REFRIGERATION AIRCONDITIONING ENGINEERING | 08/06/1995 | 29.2  | Lecturer            | Professor           | 01/12/2007 | Regular | No  | 31/07/2024 | No |
| 33 | Dr. T. Balamurugan         | XXXXXXXX40M | Ph.D       | ANNA UNIVERSITY      | INDUSTRIAL ENGINEERING                    | 21/08/2006 | 17.9  | Assistant Professor | Assistant Professor |            | Regular | No  | 31/05/2024 | No |
| 34 | Ms. R. Velvizhi            | XXXXXXXX12J | M.E/M.Tech | ANNA UNIVERSITY      | ENGINEERING DESIGN                        | 02/08/2017 | 5.11  | Assistant Professor | Assistant Professor |            | Regular | No  | 31/07/2023 | No |
| 35 | Mr. V. Ashok Kumar         | XXXXXXXX20C | M.E/M.Tech | ANNA UNIVERSITY      | Thermal Engineering                       | 03/08/2015 | 8.11  | Assistant Professor | Assistant Professor |            | Regular | No  | 30/07/2024 | No |
| 36 | Mr. P. Manoj Kumar         | XXXXXXXX49L | M.E/M.Tech | ANNA UNIVERSITY      | REFRIGERATION AND AIRCONDITIONING         | 23/07/2014 | 9     | Assistant Professor | Assistant Professor |            | Regular | No  | 31/07/2023 | No |
| 37 | Dr. N. Prasanaa Iyer       | XXXXXXXX12A | Ph.D       | ANNA UNIVERSITY      | INDUSTRIAL ENGINEERING                    | 06/08/2012 | 10.11 | Assistant Professor | Assistant Professor |            | Regular | No  | 31/07/2023 | No |
| 38 | Mr. S. ARAVINTH JAGANATHAN | XXXXXXXX82R | M.E/M.Tech | ANNA UNIVERSITY      | Manufacturing Engineering                 | 01/06/2022 | 2.9   | Assistant Professor | Assistant Professor |            | Regular | Yes |            | 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 Department1

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

| Description | CAY(2024-25) | CAYm1 (2023-24) | CAYm2 (2022-23) |
|-------------|--------------|-----------------|-----------------|
| UG1.B       | 185          | 190             | 193             |

| Description   | CAY(2024-25)       | CAYm1 (2023-24)    | CAYm2 (2022-23)    |
|---|--------------------|--------------------|--------------------|
| UG1.C   | 190                | 193                | 198                |
| UG1.D   | 193                | 198                | 198                |
| <b>UG1: Mechanical Engineering</b>  | <b>568</b>         | <b>581</b>         | <b>589</b>         |
| UG2.B   | 0                  | 0                  | 0                  |
| UG2.C   | 0                  | 0                  | 0                  |
| UG2.D   | 0                  | 0                  | 0                  |
| <b>UG2: Mechatronics Engineering</b>  | <b>0</b>           | <b>0</b>           | <b>0</b>           |
| DS=Total no. of students in all UG and PG programs in the Department                | 568                | 581                | 589                |
| AS=Total no. of students of all UG and PG programs in allied departments            | 0                  | 0                  | 0                  |
| S=Total no. of students in the Department (DS) and allied departments (AS)          | <b>S1= 568</b>     | <b>S2= 581</b>     | <b>S3= 589</b>     |
| DF=Total no. of faculty members in the Department                                   | 32                 | 34                 | 37                 |
| 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)   | <b>F1= 32</b>      | <b>F2= 34</b>      | <b>F3= 37</b>      |
| FF=The faculty members in F who have a 100% teaching load in the first-year courses | 0                  | 0                  | 0                  |
| Student Faculty Ratio (SFR)=S/(F-FF)  | <b>SFR1= 17.75</b> | <b>SFR2= 17.09</b> | <b>SFR3= 15.92</b> |
| Average SFR for 3 years   | <b>SFR= 16.92</b>  |                    |                    |

### 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 = $2.5 * [(10X + 4Y) / RF]$ |
|----------------|----|----|-------|--------------------------------|
| 2024-25(CAY)   | 12 | 20 | 28.00 | 17.86                          |
| 2023-24(CAYm1) | 14 | 20 | 29.00 | 18.97                          |
| 2022-23(CAYm2) | 14 | 23 | 29.00 | 20.00                          |

### 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 |
| 2024-25 | 3.00         | 3.00          | 6.00                 | 7.00          | 18.00                | 22.00         |
| 2023-24 | 3.00         | 4.00          | 6.00                 | 7.00          | 19.00                | 23.00         |
| 2022-23 | 3.00         | 4.00          | 6.00                 | 7.00          | 19.00                | 26.00         |

|         |          |          |          |          |           |           |
|---------|----------|----------|----------|----------|-----------|-----------|
| Average | RF1=3.00 | AF1=3.67 | RF2=6.00 | AF2=7.00 | RF2=18.67 | AF2=23.67 |
|---------|----------|----------|----------|----------|-----------|-----------|

### 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    | Dr. R. Satishkumar | Head Supply Chain Management | Timken Engineering and Research India Private Ltd, Chennai | Energy Auditing    | 52.00                |

(CAYm2)

| S.No | Name of the Person    | Designation | Organization   | Name of the Course     | No. of hours handled |
|------|-----------------------|-------------|----------------|------------------------|----------------------|
| 1    | Mr. Xavier Jaganathan | CEO         | Goodwin Motors | Automobile Engineering | 54.00                |

(CAYm3)

| S.No | Name of the Person    | Designation | Organization   | Name of the Course     | No. of hours handled |
|------|-----------------------|-------------|----------------|------------------------|----------------------|
| 1    | Mr. Xavier Jaganathan | CEO         | Goodwin Motors | Automobile Engineering | 54.00                |

### C6. Academic Research

Table No. C6.1: Faculty publication details.

| S.No. | Item   | 2023-24<br>(CAYm1) | 2022-23<br>(CAYm2) | 2021-22<br>(CAYm3) |
|-------|--|--------------------|--------------------|--------------------|
| 1     | No. of peer reviewed journal papers published    | 50                 | 22                 | 21                 |
| 2     | No. of peer reviewed conference papers published | 4                  | 9                  | 15                 |
| 3     | No. of books/book chapters published             | 0                  | 0                  | 1                  |

### 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)<br>i.e. 15,25,000=15.25 |
|--------------------|------------------------|--|--|--|-------------------------|--------------------------------------|
| Dr. L. Balamurugan | Dr.Vaddi Seshagiri Rao | Mechanical Engineering                         | Developing functionally graded lattice structures in additive manufacturing for aerospace applications | Tamilnadu State Council for Science and Technology | 2 years                 | 2.10                                 |
|                    |                        |  |  |  |                         | Amount received (Rs.):2.10           |

(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 |
|-------------------------|----------------------|--|--|----------------------------|-------------------------|--------------------------------------|
| Mr. J. Mariyappan       | Mr.A.Ruskin<br>Bruce | Mechanical Engineering                         | Solar Boat   | MSME                       | 2 years                 | 14.00                                |
| Dr. R. Selvam           |                      | Mechanical Engineering                         | Fabrication and analysis of fire retardant hybrid laminated composites | TNSCST                     | 6 Months                | 0.10                                 |
| Dr. Vaddi Seshagiri Rao |                      | Mechanical Engineering                         | SUSTAINABLE NANOMATERIALS DEVELOPMENT FOR FUTURISTIC APPLICATIONS      | DST-FIST                   | 5 Years                 | 71.00                                |
|                         |                      |  |  |                            |                         | Amount received (Rs.):85.10          |

(CAYm3)

Total Amount (Lacs) Received for the Past 3 Years: 87.20

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 |
|---------|--------------------|--|----------------|----------------------------|-------------------------|--------------------------------------|
|         |                    |  |                |                            |                         |                                      |
|         |                    |  |                |                            |                         | Amount received (Rs.):0              |

(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 |
|---------|--------------------|--|----------------|----------------------------|-------------------------|--------------------------------------|
|         |                    |  |                |                            |                         |                                      |
|         |                    |  |                |                            |                         | Amount received (Rs.):0              |

(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.R.Selvam | Dr.K.M.Kumar & Mr.N.Sathish kumar | Mechanical Engineering                         | Modification of injection mold inserts | Ram Industries and Technologies | 180 days                | 1.50                                 |
|             |                                   |  |  |                                 |                         | Amount received (Rs.):1.50           |

Total amount (Lacs) received for the past 3 years: 1.50

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.

(CAYm1)

| 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.K.M.Kumar        | Research activity                   | 6Months                 | 0.04                                 | 0.04  | Publication             |
| Mr.N.Sathiskumar    | Research activity                   | 6Months                 | 0.55                                 | 0.55  | Publication             |
| Mr.J.Vijayanand     | Research activity                   | 6Months                 | 0.25                                 | 0.25  | Publication             |
| Mr. M. Ganesh       | Research activity                   | 6Months                 | 0.42                                 | 0.42  | Publication             |
| Mr.M.Subramanian    | Research activity                   | 6Months                 | 0.38                                 | 0.38  | Publication             |
| Mr.K.Muninathan     | Research activity                   | 6Months                 | 0.30                                 | 0.30  | Publication             |
| Dr.N.E.Arun Kumar   | Research activity                   | 6Months                 | 0.30                                 | 0.30  | Publication             |
| Dr.R.Selvam         | Research activity                   | 6Months                 | 0.22                                 | 0.22  | Publication             |
| Mr. M. Siva         | Research activity                   | 6Months                 | 0.25                                 | 0.25  | Publication             |
| Mr. K. Pravin Kumar | Research activity                   | 6Months                 | 0.14                                 | 0.14  | Publication             |
|                     |                                     |                         | Amount received (Rs.): 2.85          |   |                         |

(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 |
|--------------|-------------------------------------|-------------------------|--------------------------------------|---|-------------------------|
|              |                                     |                         |                                      |   |                         |
|              |                                     |                         | Amount received (Rs.): 0             |   |                         |

(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 |
|--------------|-------------------------------------|-------------------------|--------------------------------------|---|-------------------------|
|              |                                     |                         |                                      |   |                         |
|              |                                     |                         | Amount received (Rs.): 0             |   |                         |

Total amount (Lacs) received for the past 3 years : 2.85

## 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      | Engineering Practices Laboratory                       | 30  | Centre lathe Arc Welding Transformer Carpentry vice hand planner hand drilling Machine  | 22 hours per w   | Mr. S. Vikram & Mr. R. I. Kaar | Lab. Technician & Lab. Attenc | D.M.E & 10th Std. |
| 2      | CAD / CAM Laboratory                                   | 30  | Intel i3, i5 and i7 Laser Printer Plotter CNC Lathe CNC milling machine   | 18 hours per w   | Mr. R. Kaliraj & Mr. S. Vandim | Lab. Technician & Lab. Assist | D.M.E & I.T. I    |
| 3      | Manufacturing Technology & Special Machines Laboratory | 30  | Centre Lathes Horizontal Milling Machine Vertical Milling Machine Shaper Tool and cutter grinder Cylindrical grinding Machine Lathe Tool dynamometer CNC Lathe & Milling Cent | 18 hours per w   | Mr. R. Karthikeyan & Mr. S. R  | Mechanic & Lab. Attender      | D.M.E & I.T.I     |

|   |  |    |  |                |                               |                              |                |
|---|--|----|--|----------------|-------------------------------|------------------------------|----------------|
| 4 | Fluid Mechanics and Machinery Laboratory       | 30 | Centrifugal pump Reciprocating pump Pelton wheel Francis turbine Kaplan turbine  | 18 hours per w | Mr. K.Boopathy& Mr. C. Kamaz  | Sr.Lab. technician & Mechani | D.M.E & I.T. I |
| 5 | Thermal Engineering & Heat transfer Laboratory | 30 | 4 stroke single cylinder Diesel Engines, Diesel Enginecoupled-hydraulic dynamomter, electrical dynamometer Guarded plate | 24 hours per w | Mr. M. S. Aiyappan & Mr. J. K | Sr.Lab. technician & Mechani | D.M.E & I.T. I |
| 6 | Strength of Materials Laboratory               | 30 | Impact Testing Machine, Universal Tensile Testing machine, Brinell Hardness Testing Machine, Rockwell Hardness Testing   | 24 hours per w | Mr. B. Rajesh Kumar           | Lab. technician              | D.M.E          |
| 7 | Dynamics Laboratory                            | 30 | Torsional Vibration of single rotor system setup, Motorised gyroscope, Governor apparatus, Whirling of shaft apparatus,  | 24 hours per w | Mr. G. Magendiran             | Lab. technician              | D.M.E          |
| 8 | Metrology and Measurements Laboratory          | 30 | Profile Projector Bore gauge Telescope gauge Tool Makers Microscope Surface roughness tester                             | 24 hours per w | Mr. H. Rajesh                 | Lab. technician              | D.M.E          |
| 9 | Mechatronics Laboratory                        | 30 | Basic Pneumatic Trainer Kit with manual Basic Hydraulic Trainer Kit, 8051 - Microcontroller kit with stepper motor Image | 24 hours per w | Mr. V. John Bosco             | Lab. technician              | D.M.E          |

## D2. Safety Measures in Laboratories

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

| Sr. No | Laboratory Name  | Safety Measures  |
|--------|--|--|
| 1      | Engineering Practices Laboratory                       | 1. List of Do's and Don't s displayed for student's information. 2. It has been made mandatory to wear aprons, protective shield, goggles etc., 3. All rotating part machines are provided with protective guards. 4. Sufficient Earth connections are provided. 5. Fire extinguisher is kept for safety. 6. First aid box with analgesic drug available. 7. For emergency hospitalization available within 10 km radius |
| 2      | CAD / CAM Laboratory                                   | 1. List of Do's and Don't s displayed for student's information. 2. Sufficient Earth connections are provided. 3. Fire extinguisher is kept for safety. 4. First aid box with analgesic drug available. 5. For emergency hospitalization available within 10 km radius   |
| 3      | Manufacturing Technology & Special Machines Laboratory | 1. List of Do's and Don't s displayed for student's information. 2. It has been made mandatory to wear aprons, protective shield, goggles etc., 3. All rotating part machines are provided with protective guards. 4. Sufficient Earth connections are provided. 5. Fire extinguisher is kept for safety. 6. First aid box with analgesic drug available. 7. For emergency hospitalization available within 10 km radius |
| 4      | Fluid Mechanics and Machinery Laboratory               | 1. List of Do's and Don't s displayed for student's information. 2. It has been made mandatory to wear aprons, protective shield, goggles etc., 3. All rotating part machines are provided with protective guards. 4. Sufficient Earth connections are provided. 5. Fire extinguisher is kept for safety. 6. First aid box with analgesic drug available. 7. For emergency hospitalization available within 10 km radius |
| 5      | Thermal Engineering & Heat transfer Laboratory         | 1. List of Do's and Don't s displayed for student's information. 2. All rotating part machines are provided with protective guards. 3. Sufficient Earth connections are provided. 4. Fire extinguisher is kept for safety. 5. First aid box with analgesic drug available. 6. For emergency hospitalization available within 10 km radius  |
| 6      | Strength of Materials Laboratory                       | 1. List of Do's and Don't s displayed for student's information. 2. It has been made mandatory to wear aprons, protective shield, goggles etc., 3. All rotating part machines are provided with protective guards. 4. Sufficient Earth connections are provided. 5. Fire extinguisher is kept for safety. 6. First aid box with analgesic drug available. 7. For emergency hospitalization available within 10 km radius |
| 7      | Dynamics Laboratory                                    | 1. List of Do's and Don't s displayed for student's information. 2. It has been made mandatory to wear aprons, protective shield, goggles etc., 3. All rotating part machines are provided with protective guards. 4. Sufficient Earth connections are provided. 5. Fire extinguisher is kept for safety. 6. First aid box with analgesic drug available. 7. For emergency hospitalization available within 10 km radius |

8

Metrology and Measurements Laboratory  
Mechatronics Laboratory

1. List of Do's and Don't s displayed for student's information. 2. It has been made mandatory to wear aprons, protective shield, goggles etc., 3. All rotating part machines are provided with protective guards. 4. Sufficient Earth connections are provided. 5. Fire extinguisher is kept for safety. 6. First aid box with analgesic drug available. 7. For emergency hospitalization available within 10 km radius

**D3. Project Laboratory/Research Laboratory**

**Project Laboratory/Research Laboratory /Centre of Excellence:**

The core mission of a Research Laboratory is to generate new insights through rigorous investigation and experimentation. It supports the organization or institution’s strategic goals by driving innovation, enhancing technical capabilities, and fostering a culture of inquiry and evidence-based development. The CoE serves as a hub for developing capabilities, consolidating knowledge, and aligning strategies to students. It helps organizations capitalize on expertise to solve complex challenges, improve performance, and build sustainable competitive advantages.

**Key Objectives**

- **Knowledge Generation:** Conduct original research to advance scientific and technical frontiers.
- **Innovation & Development:** Translate research findings into practical solutions, prototypes, or products.
- **Collaboration & Partnerships:** Work with academic institutions, industry partners, and governmental bodies to leverage expertise and resources.
- **Talent Development:** Train and mentor researchers, scientists, and students to build future capabilities.
- **Publication & Dissemination:** Share findings through publications, patents, and conferences to contribute to global knowledge.
- **Standardization & Best Practices:** Establish uniform methodologies, tools, and frameworks to promote consistency and quality.
- **Capability Building:** Develop skills, provide training, and mentor teams to enhance overall competency.
- **Innovation & Research:** Foster a culture of innovation by exploring emerging trends, technologies, and industry benchmarks.
- **Governance & Quality Assurance:** Monitor compliance with standards, ensure accountability, and track performance outcomes.
- **Support & Advisory Services:** Act as an internal consultant by offering subject matter expertise to projects and teams.

Available lab facilities are used for student’s project and research work.

**Table No. 7.5.1: List of project laboratory/research laboratory /Centre of Excellence.**

| S. No. | Name of the Laboratory   | Facility available in Lab for Project   | Outcome   |                                   |
|--------|--|---|---|-----------------------------------|
|        |  |   | No. of Projects   | No. of Publications               |
| 1.     | Advanced materials shaping Lab                                 | <ul style="list-style-type: none"> <li>• Hydraulic Pressing</li> <li>• Hydraulic molding</li> <li>• Disc polishing machine</li> </ul>   | UG – 4<br>PG – 2<br>Ph.D research - 1                           | Publication – 2<br>Int. conf. – 1 |
| 2.     | Precision Machining and Materials Lab                          | <ul style="list-style-type: none"> <li>• Grinding machine</li> <li>• Radial Drilling machine</li> <li>• Deep hole Drilling m/c</li> <li>• Fatigue testing machine</li> <li>• Planetary Ball</li> <li>• Milling machine</li> </ul> | UG Design Project – 15<br>UG – 4<br>PG – 1<br>Ph.D research - 4 | Publication – 6<br>Int.conf. – 1  |
| 3.     | Surface and Hardness Testing Lab (NRB Project Funded)          | <ul style="list-style-type: none"> <li>• Video measuring Machine</li> <li>• Micro Vicker’s Hardness</li> <li>• Profile projector</li> <li>• Surface roughness tester</li> </ul>   | UG – 15<br>PG – 10<br>Ph.D research -10                         | Publication – 24<br>Int. conf – 4 |
| 4.     | Engine Performance Testing Lab (AICTE MODROBS Funded)          | <ul style="list-style-type: none"> <li>• Computerized 4 stroke Single cylinder diesel coupled with hydraulic dynamometer</li> </ul>   | UG – 8<br>Ph.D research - 2                                     | Publication – 4<br>Nat. conf - 2  |
| 5.     | Advanced Materials Characterization Lab (AICTE MODROBS Funded) | <ul style="list-style-type: none"> <li>• Computerized UTM m/c</li> <li>• Inverted metallurgical Microscope</li> </ul>   | UG – 4<br>PG – 4<br>Ph.D research - 3                           | Publication - 12                  |

|     |   |  |   |                           |
|-----|---|--|---|---------------------------|
| 6.  | Production and Assembly Techniques Lab                    | <ul style="list-style-type: none"> <li>• Lathe, Milling M/C,</li> <li>• Shaping M/C,</li> <li>• Drill M/C</li> <li>• Welding M/c,</li> <li>• Fitting instruments,</li> <li>• Carpentry Tools</li> <li>• Power Saw</li> </ul> | UG Design<br>Project – 15                             | Patent – 2<br>(Published) |
| 7.  | Digital Engineering and Simulation Lab                    | <ul style="list-style-type: none"> <li>• Autodesk inventor</li> <li>• CATIA V5 R16</li> <li>• ANSYS 12</li> <li>• MATLAB 12</li> </ul>   | UG Design Project – 20<br>PG – 2<br>Ph.D research – 1 | Publication – 3           |
| 8.  | Research Laboratory                                       | <ul style="list-style-type: none"> <li>• Video Measuring m/c</li> <li>• Deep hole drilling m/c</li> <li>• Computerized UTM</li> <li>• 3D Surface roughness tester</li> <li>• Variable Compression IC engine</li> </ul>       | UG – 8<br>Ph.D research - 3                           | Publication – 6           |
| 9.  | Centre of Excellence (AICTE IDEA Supported)               | <ul style="list-style-type: none"> <li>• 3D Printing</li> <li>• lot Enabled lab equipment</li> <li>• CNC Router</li> <li>• Robotics</li> <li>• EV</li> </ul>   | UG – 5<br>PG - 2<br>Ph.D research - 1                 | Publication – 2           |
| 10. | Nanomaterials & Spectrothermal Analysis Lab (FIST Funded) | <ul style="list-style-type: none"> <li>• Atomic Absorption Spectrometer</li> <li>• Nanoparticle Size Analyzer</li> <li>• STA / TGA Analyzer</li> </ul>   | PG - 2<br>Ph.D research - 2                           | Publication – 4           |

### Advanced materials shaping Lab

#### Publications:

1. K. M. Kumar, A. S. M. Udayakumar, T. Gokulbalaji & D. L. Jeyakanth (2018), 'Influence of austempering temperature and time on the microstructure and mechanical properties of an austempered ductile iron (ADI)', International journal of mechanical and production Engineering research and development, vol.8, pp. 202-207.
2. K.M.Kumar, Examination of Microstructure and Mechanical Properties of Austempered Ductile Iron (ADI) As Per Austempering Temperature and Time, Trans Indian Inst Met, DOI 10.1007/s12666-015-0608-7, June, IF-0.615 2015.

#### Conference:

1. Kumar, KM & Hariharan, P 2013, 'Experimental determination of Machining responses in machining Austempered Ductile Iron (ADI)', International conference ICONDM 2013 at IIITD & M, Kancheperum. Tamilnadu.

### Precision Machining and Materials Lab

#### Publications:

1. P. Prem Kumar, G.K. Thirumaran, R. Vijayaraghavan, ' comparative Analysis on effect of processing parameters on microstructural and mechanical behavior of underwater friction stir welding (UWFSW) of Al6082' International Journal of Advanced Research in Management, Architecture, Technology and Engineering, 2017, Vol. 3, pp. 71-76.
2. Thanikasalam A. and Arunkumar N. (2016), 'Effect of process parameters on surface roughness and roundness error for deep hole drilling of AISI 1045 steel', International Journal of Packaging & Allied Sciences, ISSN 2320-4387 ,Vol.4, No.5, pp.3413-3418.
3. N.Arunkumar, A.Thanikasalam, V.Sankaranarayanan, E.Senthilkumar "Parametric optimization of deep- hole drilling on AISI 1045 steel and online tool condition monitoring using an accelerometer", Materials and Manufacturing Processes
4. R.Venkatesh, Synthesis and characterization of SiC- Mg-Gr Nano crystalline reinforced aluminum oxide composite and analysis of its machinability characteristics, International Journal on recent technologies in mechanical and electrical engineering, Vol:3, Issue: 2, PP 010-016, Feb 2016
5. R.Venkatesh, The preparation of Al-Sic metal matrix composite and evaluation of its properties, International journal of innovations in engineering and technology, Vol:6, Issue: 3, PP 319-326, Feb 2016.
6. R.Venkatesh, Preparation and investigation of Cu-Co- Al203 Nanocrystalline metal matrix composites, International Journal of innovations in Engineering and Technology (IJET), Volume 5, Issue 3, June 2015.

**Conference:**

1. Mr. R. Venkatesh has presented a paper on the title "Development of Copper Matrix Nano Composites" at SRM University on Feb 3, 2015.

Surface and Hardness Testing Lab (NRB Project Funded)

**Publications:**

1. B.Ramesh, A.Elaperumal; "Optimization of process parameter levels during drilling of high fiber-volume fraction non-laminated GFRP polymeric composites", International Journal of Science and Engineering Applications, 1 (2) (2012) 120–126.
2. B. Ramesh, S.Joseph Cyril Sharan, R.Kavialagan; "Experimental investigation and optimization in drilling GFRP polymeric composites using Taguchi and ANOVA", International Journal of Mechanical and Production Engineering, 2 (1) (2013) 52–60.
3. Seshagiri Rao. V and K.V. Krishna Sastry, "Parametric Optimization of CFRC Composite Drilling HSS Drill using Grey Relational Analysis", Int. J. of Innovative research in Science, Engineering and Technology, Vol.2, Issue 9, pp. 4368 to4378, September 2013.
4. Seshagiri Rao. V and K.V. Krishna Sastry, "Minimization of Delamination Factor in Drilling Of Reinforced Carbon-Carbon (RCC) Composite Material by Applying Taguchi Method", International Journal of Engineering and Advanced Technology, pp. 391-395, September 2013.
5. B. Ramesh, A. Elaperumal, D. Ajay Balaji, N. Rakesh, Optimization of ovality on drilling Glass Fiber Reinforced Plastic composites with coated tungsten carbide tool, International Journal of Innovative Research in Science, Engineering and Technology, 2 (7) (2013) 2801-2809.
6. Seshagiri Rao. V., "Experimental Analysis of Hole Ovality in Drilling of Carbon Composites", Applied Mechanics and Materials, Vol.592-594, PP 294-30, 2014
7. Dr.Arunkumar N,R.Selvam Experimental investigation and numerical analysis of the dynamic characteristics of a laminated hybrid composite bed, Polymer Composites, Wiley Online Library, Copy right 2015 Society of Plastic Engineers, DOI:10.1002/pc.23555, (2015)
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Engine Performance Testing Lab (AICTE MODROBS Funded)

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**Conference:**

1. G. M. Lionus Leo, S. Sekar and S. Arivazhagan, "Experimental Investigation and Optimization of Diesel Premixing in a Waste Cooking Oil Fueled HCCI-DI Engine with FeCl<sub>3</sub> / Al<sub>2</sub>O<sub>3</sub> Additives", National Conference on Evolution of Green and Materials Processing Technology (Ncegmp2k17), Sri Venkateswara College of Engineering, Pennalur, 02 & 03 March 2017.
2. K. M. Kumar has presented a paper on the title "Effective Fuel Consumption by Improving Cooling Water Flow Rate in IC Engine" at National Conference on Evolution of Green Energy and Vehicle Technology, Sri Venkateswara College of Engineering, Chennai

Advanced Materials Characterization Lab (AICTE MODROBS Funded)

**Publications:**

1. Ashok kumar R, et al. "The influence of tool shoulder size and plate position on the characteristics of friction stir welded different aluminum alloys." *Journal of the Chinese Institute of Engineers* 47.5 (2024): 589-595.
2. Velmurugan, Ganesan, et al. "Hybrid calotropis gigantea fibre-reinforced epoxy composites with SiO<sub>2</sub>'s longer-term moisture absorbable and its impacts on mechanical and dynamic mechanical properties." *Materials Research Express* 10.11 (2023): 115302.

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#### Production and Assembly Techniques Lab

##### **Publications:**

1. V Ashok Kumar, K Muninathan, S Arivazhagan, N Monish, M Venkata Ramanan, Vaddi Seshagiri Rao, Gurunathan Baskar, "Investigations on carbonization operating conditions of ANSYS customized kiln for charcoal production from Prosopis juliflora biomass and ANN model prediction for optimized",Fuel, Volume. 350,128,838. 2023

##### **Patent Applied:**

1. B. Ramesh, P. Venkateshwaran, Dr. V.S. Rao, Dr. A. Elayaperumal, filed patent for innovation of new mechanism in hydraulic jack and modification of hydraulic cylinder. Patent application file No.: 323/CHE/2014 and the same was published in the Patent Office Journal on 07.02.2014. Page No. 2908.
2. C. Yuvaraj, M. Vigneshwaran, M.Abirami, Mr. KMB. Karthikeyan, Mr. T. Balasubramanian applied for patenting "Double Oscillating (DO) Automotive Windshield Wiper System" and has been published in Intellectual Property on April 2017.

#### Digital Engineering and Simulation Lab

##### **Publications:**

1. Balamurugan Loganathan,Jancirani Jeyaraj (<http://www.deepdyve.com/search?author=BalaMurugan%2C%2BLoganathan>) "An investigation on semi-active suspension damper and control strategies for vehicle ride comfort and road holding" Proceedings of the (<http://www.deepdyve.com/browse/journals/proceedings-of-the-institution-of-mechanical-engineers-part-i-journal-of-systems-and-control-engineering>) Institution of Mechanical Engineers, Part I: Journal of Systems and Control Engineering, (<http://www.deepdyve.com/browse/journals/proceedings-of-the-institution-of-mechanical-engineers-part-i-journal-of-systems-and-control-engineering>) Volume 226 (8) SAGE– Sep 1, 2012
2. T.Balasubramanian, Simulation of Pressure Drop of Alternative Refrigerants inside evaporator Coil using CFD, International Journal of Mechanical, Civil, Automobile and Structural Engineering (IJMCAS), Vol. 1, Issue. 1, April – 2015
3. M.Ganesh, Design and analysis of automotive bumper beam using polymer matrix composite, Middle East Journal of Scientific Research, DOI: 10.5829/idosi.mejsr.2016.24.S1.1

#### 8. Research Laboratory

##### **Publications:**

1. Ganesh, M., et al. "Experimental investigation of drilling on Inconel 718 using eco-friendly nanofluid." *Materials and Manufacturing Processes* 40.1 (2025): 9-19.
2. Sathishkumar, N., et al. "Performance evaluation of topology optimized and additive manufactured punch holders for blanking operation—a case study." *International Journal on Interactive Design and Manufacturing (IJIDeM)* (2024): 1-17.
3. Ganesh, M., et al. "Experimental investigation on sustainable machining of monel using vegetable oils as cutting fluids and machine learning-based surface roughness prediction." *Engineering Research Express* 6.4 (2024): 045505.
4. Ganesh, M., and N. Arunkumar. "A sustainable approach in deep hole drilling of Ti6Al4V: Effect of cryogenic cooling on hole parameters and its evaluation." *Journal of Manufacturing Processes* 121 (2024): 343-360.
5. Sathishkumar, N., et al. "Effect of varying unit cell size on energy absorption behaviour of additive manufactured TPMS PETG lattice structure." *Progress in Additive Manufacturing* 8.6 (2023): 1379-1391

## 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 |
|----------------|---|--------------------------------------|---|---|--|
| 2022-23(CAYm2) | 1440                                      | 72                                   | 44  | 111   | 80   |
| 2023-24(CAYm1) | 1440                                      | 72                                   | 52  | 128   | 93   |
| 2024-25(CAY)   | 1500                                      | 75                                   | 57  | 138   | 98   |

## E2. Budget Allocation, Utilization, and Public Accounting at Institute Level

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

| Items                                    | Budgeted in 2024-25 | 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 | Budgeted in 2021-22 | Actual Expenses in 2021-22 till |
|--|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|
| Infrastructure Built-Up                  | 210000000           | 168288344                       | 200000000           | 166360721                       | 110000000           | 82437263                        | 70000000            | 53576288                        |
| Library                                  | 17000000            | 15138014                        | 16500000            | 14905787                        | 14000000            | 12124438                        | 9500000             | 8057575                         |
| Laboratory equipment                     | 37500000            | 34337454                        | 47750000            | 43016973                        | 24000000            | 21190541                        | 7000000             | 6065438                         |
| Teaching and non-teaching staff salary   | 585000000           | 587785565                       | 505000000           | 504356088                       | 385000000           | 385169982                       | 307000000           | 305342141                       |
| Outreach Programs                        | 3100000             | 2909227                         | 6600000             | 5952700                         | 1100000             | 976977                          | 1000000             | 898640                          |
| R&D                                      | 110000000           | 99391146                        | 68000000            | 61303675                        | 20000000            | 17012295                        | 16000000            | 13952019                        |
| Training, Placement and Industry linkage | 19500000            | 17456715                        | 35800000            | 32225743                        | 35600000            | 30935280                        | 5100000             | 4432196                         |
| SDGs                                     | 220000000           | 202209574                       | 138400000           | 124721269                       | 39800000            | 34611220                        | 35000000            | 28385141                        |
| Entrepreneurship                         | 15000000            | 13709124                        | 9400000             | 8455679                         | 2700000             | 2346523                         | 2200000             | 1924416                         |
| Others, specify                          | 27500000            | 27418247                        | 18800000            | 16911359                        | 5400000             | 4693046                         | 4500000             | 3848833                         |
| <b>Total</b>                             | <b>1244600000</b>   | <b>1168643410</b>               | <b>1046250000</b>   | <b>978209994</b>                | <b>637600000</b>    | <b>591497565</b>                | <b>457300000</b>    | <b>426482687</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 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 | Budgeted in 2021-22 | Actual Expenses in 2021-22 till |
|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|---------------------|---------------------------------|
| Laboratory equipment            | 50000               | 0                               | 270000              | 212400                          | 220000              | 176977                          | 260000              | 232620                          |
| Software                        | 20000               | 0                               | 20000               | 0                               | 20000               | 0                               | 20000               | 0                               |
| SDGs                            | 250000              | 214570                          | 210000              | 203350                          | 300000              | 280000                          | 10000               | 0                               |
| Support for faculty development | 1000000             | 838050                          | 350000              | 302502                          | 10000               | 8500                            | 10000               | 8000                            |

|  |                |                |                |                |                |                |                |                |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| R & D  | 800000         | 690000         | 800000         | 765000         | 500000         | 330000         | 500000         | 315000         |
| Industrial Training, Industry expert, Internship | 3730000        | 3597700        | 3978000        | 3950025        | 3146000        | 3084970        | 477500         | 460200         |
| Miscellaneous Expenses*                          | 926000         | 858309         | 1464000        | 1259486        | 914000         | 831931         | 581925         | 367748         |
| <b>Total</b>                                     | <b>6776000</b> | <b>6198629</b> | <b>7092000</b> | <b>6692763</b> | <b>5110000</b> | <b>4712378</b> | <b>1859425</b> | <b>1383568</b> |