

## 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> 2                              |
| <b>Application No:</b> 11847                 | <b>Date of Submission:</b> 21-05-2026       |

### PART A- Profile of the Institute

|                                                                                                                           |                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>A1.Name of the Institute:</b> AMRUTVAHINI COLLEGE OF ENGINEERING, SANGAMNER                                            |                                                                                                              |
| Year of Establishment : 1983                                                                                              | Location of the Institute: At Amrutnagar Post Sangamner Sk Tal Sangamner Dist Ahilyanagar Maharashtra 422608 |
| <b>A2. Institute Address:</b> AT - AMRUTNAGAR, POST- SANGAMNER (SK), TAL: SANGAMNER, DIST-AHMEDNAGAR, MAHARASHTRA, 422608 |                                                                                                              |
| City:SANGAMNER                                                                                                            | State:Maharashtra                                                                                            |
| Pin Code:422605                                                                                                           | Website:www.avcoe.org                                                                                        |
| Email:PRINCIPAL@AVCOE.ORG                                                                                                 | Phone No(with STD Code):-                                                                                    |
| <b>A3. Name and Address of the Affiliating University (if any):</b>                                                       |                                                                                                              |
| Name of the University : SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE                                                           | City: Pune                                                                                                   |
| State : Maharashtra                                                                                                       | Pin Code: 411007                                                                                             |
| <b>A4. Type of the Institution:</b> Self-Supported Institute                                                              |                                                                                                              |
| <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: 4

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 | UG               | Artificial Intelligence and Data Science      | 2023          | --             | Artificial Intelligence and Data Science      |
| 2      | Engineering & Technology | UG               | Automation & Robotics                         | 2021          | --             | Automation and Robotics                       |
| 3      | Engineering & Technology | UG               | Civil Engineering                             | 1983          | --             | Civil Engineering                             |
| 4      | Engineering & Technology | PG               | Civil Engineering (Structural Engineering)    | 2007          | --             | Civil Engineering                             |
| 5      | Engineering & Technology | UG               | Computer Engineering                          | 1986          | --             | Computer Engineering                          |
| 6      | Engineering & Technology | PG               | Computer Engineering                          | 2010          | --             | Computer Engineering                          |
| 7      | Engineering & Technology | UG               | Electrical Engineering                        | 2012          | --             | Electrical Engineering                        |
| 8      | Engineering & Technology | UG               | Electronics and Computer Engineering          | 2021          | --             | Electronics and Computer Engineering          |
| 9      | Engineering & Technology | UG               | Electronics and Telecommunication Engineering | 2000          | --             | Electronics and Telecommunication Engineering |
| 10     | Engineering & Technology | UG               | Information Technology                        | 2001          | --             | Information Technology                        |
| 11     | Engineering & Technology | UG               | Mechanical Engineering                        | 1991          | --             | Mechanical Engineering                        |
| 12     | Engineering & Technology | PG               | Mechanical Engineering (Design)               | 2007          | --             | Mechanical Engineering                        |
| 13     | Management               | PG               | Master of Business Administration             | 2010          | --             | 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 Engineering | No                        | Electrical Engineering | UG            |
| Computer Engineering   | Yes                       | Computer 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 |
|--------------------------------|-----------------------|---------------|
| Automation and Robotics        | Automation & Robotics | 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   |
|--------|------------------------|-----------------------|--------------------------------|-------------------|-----------------------------------|---------------------------|----------------|------------------------|----------------------------------------------------|-------------------------------------------------------------------|------|------|
| 1      | Mechanical Engineering | UG                    | 1991 / --                      | 60                | Yes                               | 2012                      | 120            | 2012                   | F.No. Western/ 1-715941562/2012/EOA Dt. 10/05/2012 | Granted accreditation for 3 years for the period (specify period) | 2023 | 2026 |

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     |
|--------|-------------------------|-----------------------|-----------------------|--------------------------------|-------------------|-----------------------------------|---------------------------|----------------|------------------------|------------------------------------------------------------------------------------------------------|--------------------------|
| 1      | Automation and Robotics | Automation & Robotics | UG                    | 2021 / --                      | 60                | No                                | NA                        | 60             | 2021                   | Higher and Technical Education Department, Government of Maharashtra, Government Resolution No. TEM- | Eligible but not applied |

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

|                           |                               |
|---------------------------|-------------------------------|
| A. Name of the HoD :      | Dr. Wakchaure Vishnu Damodhar |
| 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           | 108             | 103             | 106             | 103             | 85              | 116             |
| N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats                                                                      | 0             | 32              | 30              | 18              | 32              | 55              | 31              |
| 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                                                                                               | 6             | 13              | 14              | 14              | 18              | 12              | 7               |
| Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points.                                      | 126           | 153             | 147             | 138             | 153             | 152             | 154             |

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                 | 6                   | 105.00                        |
| 2024-25 (CAYm1) | 120                | 108                 | 13                  | 100.83                        |
| 2023-24 (CAYm2) | 120                | 103                 | 14                  | 97.50                         |

Average [ (ER1 + ER2 + ER3) / 3 ] = 101.11≅ 100

**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). | 83.00         | 105.00          | 134.00          |
| B=No. of students who graduated from the program in the stipulated course duration                                                                                                                                                                                                                            | 153.00        | 152.00          | 154.00          |
| Success Rate (SR)= (B/A) * 100                                                                                                                                                                                                                                                                                | 184.34        | 144.76          | 114.93          |

Average SR of three batches ((SR\_1+ SR\_2+ SR\_3)/3): 148.01

**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) | 6.38             | 5.62             | 5.70              |
| Y=Total no. of successful students                                                                                                                                     | 123.00           | 111.00           | 129.00            |
| Z=Total no. of students appeared in the examination                                                                                                                    | 130.00           | 137.00           | 131.00            |
| API [X*(Y/Z)]                                                                                                                                                          | 6.04             | 4.55             | 5.61              |

Average API[ (AP1+AP2+AP3)/3 ] : 5.40

**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 2nd year/10) | 6.99              | 7.01              | 6.34              |

|                                                     |        |        |        |
|-----------------------------------------------------|--------|--------|--------|
| Y=Total no. of successful students                  | 119.00 | 100.00 | 104.00 |
| Z=Total no. of students appeared in the examination | 138.00 | 111.00 | 151.00 |
| API [ X * (Y/Z) ]                                   | 6.03   | 6.32   | 4.37   |

Average API [ (AP1 + AP2 + AP3)/3 ] : 5.57

**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) | 7.71            | 7.65            | 7.17            |
| Y=Total no. of successful students                                                                                                                                     | 89.00           | 89.00           | 118.00          |
| Z=Total no. of students appeared in the examination                                                                                                                    | 100.00          | 104.00          | 144.00          |
| API [ X*(Y/Z) ]:                                                                                                                                                       | 6.86            | 6.55            | 5.88            |

Average API [ (AP1 + AP2 + AP3)/3 ] : 6.43

**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           | 153.00        | 152.00         | 154.00         |
| X=No. of students placed                       | 80.00         | 108.00         | 84.00          |
| Y=No. of students admitted to higher studies   | 2.00          | 0.00           | 1.00           |
| Z= No. of students taking up entrepreneurship  | 0.00          | 1.00           | 1.00           |
| Placement Index(P) = (((X + Y + Z)/FS) * 100): | 53.59         | 71.71          | 55.84          |

Average Placement Index = (P\_1 + P\_2 + P\_3)/3: 60.38 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. Wakchaure Vishnu Damodhar   | XXXXXXXX80L | Ph.D           | SPPU, Pune                   | CAD/CAM                               | 08/12/2016                          | 9.5                                      | Professor                                       | Professor           | 08/12/2016                                                            | Regular                                           | Yes                        |                                | Yes     |
| 2     | Dr. Aher Vishnu Sadashiv        | XXXXXXXX84Q | Ph.D           | SPPU, Pune                   | Design Engineering                    | 26/08/2000                          | 25.9                                     | Assistant Professor                             | Associate Professor | 15/02/2022                                                            | Regular                                           | Yes                        |                                | No      |
| 3     | Dr. Bajaj Dipak Sriramji        | XXXXXXXX98R | Ph.D           | SPPU, Pune                   | Design Engineering                    | 01/01/2009                          | 17.4                                     | Assistant Professor                             | Associate Professor | 24/09/2022                                                            | Regular                                           | Yes                        |                                | No      |
| 4     | Dr. Nagare Prashant Narayan     | XXXXXXXX95H | Ph.D           | SPPU, Pune                   | Design Engineering                    | 06/04/2007                          | 19.1                                     | Assistant Professor                             | Associate Professor | 02/06/2025                                                            | Regular                                           | Yes                        |                                | No      |
| 5     | Dr. Harne Mahesh Shaligram      | XXXXXXXX23P | Ph.D           | RTMU, Nagpur                 | Design Engineering                    | 14/07/2007                          | 18.10                                    | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 6     | Mr. Mhaske Vilas Machindra      | XXXXXXXX39A | M.E.           | Shivaji University, Kolhapur | Design Engineering                    | 07/08/2008                          | 17.9                                     | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 7     | Mr. Fargade Sandeep Chandrabhan | XXXXXXXX33A | M.E.           | SPPU, Pune                   | Design Engineering                    | 21/09/2006                          | 19.8                                     | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 8     | Mr. Tambe Nitin Haribhau        | XXXXXXXX06B | M.E.           | SPPU, Pune                   | Heat Power                            | 16/08/2011                          | 14.9                                     | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 9     | Mr. Deokar Anand Vasantrao      | XXXXXXXX81J | M.E.           | SPPU, Pune                   | Design Engineering                    | 06/09/2007                          | 18.8                                     | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 10    | Dr. Bayas Eknath Tryambak       | XXXXXXXX20L | Ph.D           | VGU, Jaipur                  | Design Engineering                    | 08/11/2008                          | 17.6                                     | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 11    | Mr. Varpe Babasaheb Kisan       | XXXXXXXX90C | M.E.           | SPPU, Pune                   | Design Engineering                    | 09/04/2008                          | 18.1                                     | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 12    | Mr. Wakchaure Pravin Babanrao   | XXXXXXXX96E | M.E.           | SPPU, Pune                   | Design Engineering                    | 23/08/2010                          | 15.9                                     | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 13    | Dr. Deshmukh Kishor Bhausahab   | XXXXXXXX31Q | Ph.D           | SPPU, Pune                   | Design Engineering                    | 21/07/2011                          | 14.10                                    | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 14    | Dr. Dagale Kishor Dhondiba      | XXXXXXXX82Q | Ph.D           | VGU, Jaipur                  | Design Engineering                    | 02/07/2012                          | 13.10                                    | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 15    | Dr. Gadakh Sachin Tukaram       | XXXXXXXX27C | Ph.D           | RGPV, Bhopal                 | Tribology and Maintenance Engineering | 06/07/2012                          | 13.10                                    | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |
| 16    | Mr. Jambukar Ganpat Baban       | XXXXXXXX68P | M.E.           | SPPU, Pune                   | Design Engineering                    | 06/07/2012                          | 13.10                                    | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | No      |

|    |                                        |             |      |                              |                               |            |       |                     |                     |            |         |     |            |    |
|----|----------------------------------------|-------------|------|------------------------------|-------------------------------|------------|-------|---------------------|---------------------|------------|---------|-----|------------|----|
| 17 | Mr. Amrutkar Sunil Kashinath           | XXXXXXXX50N | M.E. | RGPV, Bhopal                 | Heat Power                    | 25/09/2012 | 13.7  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 18 | Dr. Aher Avinash Bhagwat               | XXXXXXXX89D | Ph.D | VGU, Jaipur                  | Design Engineering            | 21/09/2010 | 15.8  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 19 | Dr. Raktate Omesh Uttamrao             | XXXXXXXX88P | Ph.D | Kalinga University, Raipur   | Manufacturing                 | 28/06/2012 | 13.10 | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 20 | Mr. Pendbhaje Gaurav Sanjay            | XXXXXXXX79A | M.E. | SPPU, Pune                   | Design Engineering            | 15/07/2013 | 12.10 | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 21 | Mr. Dighe Kapil Keshavrao              | XXXXXXXX01Q | M.E. | SPPU, Pune                   | Design Engineering            | 15/07/2013 | 12.10 | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 22 | Dr. Shinde Balasaheb Ganpat            | XXXXXXXX71B | Ph.D | MIT-ADT University, Pune     | Product Development           | 16/08/2014 | 11.9  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 23 | Dr. Gite Ravindra Eknath               | XXXXXXXX10M | Ph.D | SPPU, Pune                   | Additive Manufacturing        | 01/02/2016 | 10.3  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 24 | Dr. Galande Swapnil Dnyadeo            | XXXXXXXX41B | Ph.D | SPPU, Pune                   | Design Engineering            | 10/02/2016 | 10.3  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 25 | Mr. Gunjal Popat Nana                  | XXXXXXXX85P | M.E. | SPPU, Pune                   | Design Engineering            | 23/12/2014 | 11.4  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 26 | Mr. Wagh Yogesh Jaywant                | XXXXXXXX79K | M.E. | NMU, Jalgaon                 | Thermal Engineering           | 17/02/2016 | 10.3  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 27 | Mr. Thorat Satyajit Prakash            | XXXXXXXX45N | M.E. | SPPU, Pune                   | Design Engineering            | 06/07/2017 | 8.10  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 28 | Dr. Hase Vaibhav Jalindar              | XXXXXXXX54P | Ph.D | SPPU, Pune                   | CAD/CAM                       | 29/07/2002 | 23.9  | Assistant Professor | Associate Professor | 10/12/2019 | Regular | Yes |            | No |
| 29 | Dr. Gavhane Rakhmaji Sopan             | XXXXXXXX82G | Ph.D | SPPU, Pune                   | Heat Power                    | 08/10/2005 | 20.7  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 30 | Mr. Patil Virupakshagouda Yallanagouda | XXXXXXXX84J | M.E. | Mysore University, Mysore    | Maint. Engg                   | 29/06/2006 | 19.10 | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 31 | Mr. Nibe Deepak Madhavrao              | XXXXXXXX83R | M.E. | SPPU, Pune                   | Heat Power                    | 09/08/2008 | 17.9  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 32 | Dr. Varpe Bhausaheb Rambhau            | XXXXXXXX17E | Ph.D | SPPU, Pune                   | Design Engineering            | 03/09/2011 | 14.8  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 33 | Dr. Gunjal Yogesh Ramrao               | XXXXXXXX63D | Ph.D | SPPU, Pune                   | Design Engineering            | 11/08/2005 | 20.9  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 34 | Dr. Shirke Makarand Bhikaji            | XXXXXXXX59D | Ph.D | SPPU, Pune                   | Design Engineering            | 16/07/2007 | 18.10 | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 35 | Mr. Vilhekar Raman Ramdasrao           | XXXXXXXX10P | M.E. | DBATU, Raigad                | Thermal and Fluid Engineering | 04/03/2014 | 12.2  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 36 | Mr. Shivsharan Pratap Sopan            | XXXXXXXX12L | M.E. | SPPU, Pune                   | Design Engineering            | 03/07/2012 | 13.10 | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 37 | Mr. Bhagwat Kiran Somnath              | XXXXXXXX81B | M.E. | SPPU, Pune                   | Design Engineering            | 23/12/2014 | 11.4  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 38 | Mr. Shinde Amit Shivaji                | XXXXXXXX29A | M.E. | SPPU, Pune                   | Design Engineering            | 29/12/2014 | 11.4  | Assistant Professor | Assistant Professor |            | Regular | Yes |            | No |
| 39 | Mr. Morankar Kamalakar Prabhakar       | XXXXXXXX82G | M.E. | Shivaji University, Kolhapur | Power Engineering             | 15/07/1991 | 32.10 | Assistant Professor | Associate Professor | 12/07/1999 | Regular | No  | 31/05/2024 | No |
| 40 | Mr. Chaudhari Sujit Badashaha          | XXXXXXXX83F | M.E. | SPPU, Pune                   | Design Engineering            | 23/12/2014 | 9.9   | Assistant Professor | Assistant Professor |            | Regular | No  | 05/10/2024 | No |

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

| Sr.No | Name of the Faculty           | PAN No.     | APAAR faculty ID*(if any) | 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. Vilas Baburao Shinde      | XXXXXXXX11P | XXXXXXXXXX987             | Ph.D           | SPPU, Pune    | Robotics               | 09/08/2004                          | 21.9                                     | Assistant Professor                             | Assistant Professor |                                                                       | Regular                                           | Yes                        |                                | Yes     |
| 2     | Dr. Ravindra Somnath Tajane   | XXXXXXXX58D | XXXXXXXXXX616             | Ph.D           | SPPU, Pune    | Production Engineering | 15/12/1990                          | 35.5                                     | Assistant Professor                             | Associate Professor | 29/01/2018                                                            | Regular                                           | Yes                        |                                | No      |
| 3     | Dr. Bhaskar Ramkrishna Borkar | XXXXXXXX81M | XXXXXXXXXX853             | Ph.D           | VNIT, Nagpur  | Production Engineering | 29/07/2002                          | 23.9                                     | Assistant Professor                             | Professor           | 29/01/2018                                                            | Regular                                           | Yes                        |                                | No      |
| 4     | Dr. Vijay Shivaji Gadakh      | XXXXXXXX24E | XXXXXXXXXX167             | Ph.D           | NIT, Warangal | Production Engineering | 16/08/2010                          | 15.9                                     | Assistant Professor                             | Associate Professor | 01/04/2016                                                            | Regular                                           | Yes                        |                                | No      |

|    |                                  |             |               |        |                 |                                   |            |       |                     |                     |  |         |     |  |    |
|----|----------------------------------|-------------|---------------|--------|-----------------|-----------------------------------|------------|-------|---------------------|---------------------|--|---------|-----|--|----|
| 5  | Dr. Narayan Sahadu Khemnar       | XXXXXXXX22F | XXXXXXXXXX993 | Ph.D   | SPPU, Pune      | Production Engineering            | 11/08/2005 | 20.9  | Assistant Professor | Assistant Professor |  | Regular | Yes |  | No |
| 6  | Mr. Hemant Parashram Pathade     | XXXXXXXX77J | XXXXXXXXXX999 | M.E.   | SPPU, Pune      | Mechanical Engineering            | 03/12/2007 | 18.5  | Assistant Professor | Assistant Professor |  | Regular | Yes |  | No |
| 7  | Mr. Satish Namdeorao Gadhave     | XXXXXXXX93D | XXXXXXXXXX048 | M.E.   | SPPU, Pune      | Production Engineering            | 03/12/2007 | 18.5  | Assistant Professor | Assistant Professor |  | Regular | Yes |  | No |
| 8  | Mr. Manoj Jagannath Thokale      | XXXXXXXX81E | XXXXXXXXXX267 | M.Tech | SPPU, Pune      | Manufacturing Engg and Automation | 15/06/2009 | 16.11 | Assistant Professor | Assistant Professor |  | Regular | Yes |  | No |
| 9  | Mr. Prashant Bhausaheb Wakchaure | XXXXXXXX77A | XXXXXXXXXX822 | M.E.   | SPPU, Pune      | Production Engineering            | 25/02/2013 | 13.2  | Assistant Professor | Assistant Professor |  | Regular | Yes |  | No |
| 10 | Dr. Nitin Jalindar Varpe         | XXXXXXXX02J | XXXXXXXXXX022 | Ph.D   | UEM, Jaipur     | Mechanical Engineering            | 18/06/2014 | 11.11 | Assistant Professor | Assistant Professor |  | Regular | Yes |  | No |
| 11 | Mr. Sunil Kisan Bangar           | XXXXXXXX11H | XXXXXXXXXX053 | M.E.   | JNTU, Hyderabad | Advanced Manufacturing System     | 01/02/2016 | 10.3  | Assistant Professor | Assistant Professor |  | Regular | Yes |  | No |
| 12 | Ms. Vidya Ramesh Wakchaure       | XXXXXXXX90A | XXXXXXXXXX869 | M.E.   | SPPU, Pune      | Microwave                         | 01/07/2024 | 1.10  | Assistant Professor | Assistant Professor |  | Regular | Yes |  | No |

## C2. Student-Faculty Ratio (SFR)

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):

UG1=1st UG program

UGn=nth UG program

B= No. of Students in UG 2nd year (ST)

C= No. of Students in UG 3rd year (ST)

D= No. of Students in UG 4th year (ST)

No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

Student Faculty Ratio (SFR) = S/F

S= No. of students of all programs in the Department including all students of allied departments/clusters.

**No. of students (ST)**=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.

**F**=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

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

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

| Description                                                                         | CAY(2025-26)       | CAYm1 (2024-25)    | CAYm2 (2023-24)    |
|-------------------------------------------------------------------------------------|--------------------|--------------------|--------------------|
| UG1.B                                                                               | 132                | 132                | 132                |
| UG1.C                                                                               | 132                | 132                | 132                |
| UG1.D                                                                               | 132                | 132                | 132                |
| <b>UG1: Mechanical Engineering</b>                                                  | <b>396</b>         | <b>396</b>         | <b>396</b>         |
| UG2.B                                                                               | 66                 | 66                 | 66                 |
| UG2.C                                                                               | 66                 | 66                 | 66                 |
| UG2.D                                                                               | 66                 | 66                 | 0                  |
| <b>UG2: Automation &amp; Robotics</b>                                               | <b>198</b>         | <b>198</b>         | <b>132</b>         |
| PG1.A                                                                               | 6                  | 6                  | 6                  |
| PG1.B                                                                               | 6                  | 6                  | 6                  |
| <b>PG1: Mechanical Engineering (Design)</b>                                         | <b>12</b>          | <b>12</b>          | <b>12</b>          |
| DS=Total no. of students in all UG and PG programs in the Department                | 408                | 408                | 408                |
| AS=Total no. of students of all UG and PG programs in allied departments            | 198                | 198                | 132                |
| S=Total no. of students in the Department (DS) and allied departments (AS)          | <b>S1= 606</b>     | <b>S2= 606</b>     | <b>S3= 540</b>     |
| DF=Total no. of faculty members in the Department                                   | 38                 | 38                 | 40                 |
| AF= Total no. of faculty members in the allied Departments                          | 12                 | 12                 | 11                 |
| F=Total no. of faculty members in the Department (DF) and allied Departments (AF)   | <b>F1= 50</b>      | <b>F2= 50</b>      | <b>F3= 51</b>      |
| FF=The faculty members in F who have a 100% teaching load in the first-year courses | 12                 | 11                 | 13                 |
| Student Faculty Ratio (SFR)=S/(F-FF)                                                | <b>SFR1= 15.95</b> | <b>SFR2= 15.54</b> | <b>SFR3= 14.21</b> |
| Average SFR for 3 years                                                             | <b>SFR= 15.23</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 = $2.5 \times [(10X + 4Y) / RF ]$ |
|--------------|----|----|-------|--------------------------------------|
| 2025-26(CAY) | 16 | 34 | 30.00 | 24.67                                |

|                |    |    |       |       |
|----------------|----|----|-------|-------|
| 2024-25(CAYm1) | 15 | 35 | 30.00 | 24.17 |
| 2023-24(CAYm2) | 13 | 38 | 27.00 | 26.11 |

#### C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required =  $1/9 \times \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per C2 of this documents.}$
- RF2= No. of Associate Professors required =  $2/9 \times \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents.}$
- RF3= No. of Assistant Professors required =  $6/9 \times \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S) as per section C2 of this documents.}$
- 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 | 3.00         | 2.00          | 7.00                 | 6.00          | 20.00                | 42.00         |
| 2024-25 | 3.00         | 2.00          | 7.00                 | 5.00          | 20.00                | 43.00         |
| 2023-24 | 3.00         | 2.00          | 6.00                 | 5.00          | 18.00                | 44.00         |
| Average | RF1=3.00     | AF1=2.00      | RF2=6.67             | AF2=5.33      | RF2=19.33            | AF2=43.00     |

#### 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    | 0                  | 0           | 0            | 0                  | 0.00                 |

(CAYm2)

| S.No | Name of the Person | Designation            | Organization                                 | Name of the Course | No. of hours handled |
|------|--------------------|------------------------|----------------------------------------------|--------------------|----------------------|
| 1    | Pankaj Patil       | Sr. Production Faculty | Maya Academy of Advanced Cinematics , Nashik | ARVR               | 52.00                |

(CAYm3)

| S.No | Name of the Person | Designation            | Organization                                 | Name of the Course | No. of hours handled |
|------|--------------------|------------------------|----------------------------------------------|--------------------|----------------------|
| 1    | Pankaj Patil       | Sr. Production Faculty | Maya Academy of Advanced Cinematics , Nashik | ARVR               | 54.00                |

#### 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    | 29                 | 22                 | 14                 |
| 2     | No. of peer reviewed conference papers published | 11                 | 17                 | 10                 |
| 3     | No. of books/book chapters published             | 3                  | 1                  | 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.K.B. Deshmukh | ----               | Mechanical                                     | Investigation of Thermal Performance Enhancement | Internal Quality Assurance Cell | 02 years                | 0.80                                 |
|                  |                    |                                                |                                                  |                                 |                         | Amount received (Rs.):0.80           |

(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 |
|---------|--------------------|------------------------------------------------|----------------|----------------------------|-------------------------|--------------------------------------|
| ----    | ----               | ----                                           | ----           | ----                       | ----                    | 0.00                                 |
|         |                    |                                                |                |                            |                         | Amount received (Rs.):0.00           |

(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.V.S. Gadakh | ----               | Mechanical                                     | Study of Inter layer in FSW of Aluminum & Steel | AICTE, New Delhi           | 3 years                 | 21.56                                |
|                |                    |                                                |                                                 |                            |                         | Amount received (Rs.):21.56          |

Total Amount (Lacs) Received for the Past 3 Years: 22.36

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 |
|---------|--------------------|------------------------------------------------|----------------|----------------------------|-------------------------|--------------------------------------|
| ----    | ----               | ----                                           | ----           | ----                       | ----                    | 0.00                                 |
|         |                    |                                                |                |                            |                         | Amount received (Rs.):0.00           |

(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 |
|---------|--------------------|------------------------------------------------|----------------|----------------------------|-------------------------|--------------------------------------|
| ----    | ----               | ----                                           | ----           | ----                       | ----                    | 0.00                                 |
|         |                    |                                                |                |                            |                         | Amount received (Rs.):0.00           |

(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 |
|---------|--------------------|------------------------------------------------|----------------|----------------------------|-------------------------|--------------------------------------|
| ----    | ----               | ----                                           | ----           | ----                       | ----                    | 0.00                                 |
|         |                    |                                                |                |                            |                         | Amount received (Rs.):0.00           |

Total amount (Lacs) received for the past 3 years: 0.00

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 |
|-------------------|-------------------------------------|-------------------------|--------------------------------------|-----------------------------------------------|-------------------------|
| Prof. B. K. Varpe | SAE BAJA                            | 2024–25                 | 3.50                                 | 3.50                                          | Successfully Completed  |
| Prof. B. K. Varpe | TIFEN                               | 2024–25                 | 0.55                                 | 0.55                                          | Winner                  |
| Prof. B. K. Varpe | E-BAJA                              | 2024–25                 | 3.00                                 | 3.00                                          | Successfully Completed  |
|                   |                                     |                         | Amount received (Rs.): 7.05          |                                               |                         |

(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 |
|-------------------|-------------------------------------|-------------------------|--------------------------------------|-----------------------------------------------|-------------------------|
| Prof. B. K. Varpe | E-REEV                              | 2023–24                 | 3.50                                 | 3.50                                          | Winner                  |
|                   |                                     |                         | Amount received (Rs.): 3.50          |                                               |                         |

(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 |
|-------------------|-------------------------------------|-------------------------|--------------------------------------|-----------------------------------------------|-------------------------|
| Prof. B. K. Varpe | TIFEN                               | 2022–23                 | 2.00                                 | 2.00                                          | Winner                  |
|                   |                                     |                         | Amount received (Rs.): 2.00          |                                               |                         |

Total amount (Lacs) received for the past 3 years : 12.55

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      | Heat Engine Laboratory                      | 5                                         | Four Stroke Four Cylinder Diesel Engine Coupled with Hydraulic Dynamometer Test Rig. Diesel Engine 4 Stroke 4 Cylinder Test                | Semester -I: 16                                                          | Mr. V. V. Davkhare          | Lab. Asst   | ITI-Diesel Mechanic |
| 2      | Steam Power Laboratory                      | 5                                         | Steam Power Plant having Boiler (Non- IBR, Diesel fired, Water tube with steam output of 400 Kcal/hr. Pressure 40 PSI. Water 300 ltr)      | Semester -I: 16                                                          | Mr. V. V. Davkhare          | Lab. Asst   | ITI-Diesel Mechanic |
| 3      | Heat Transfer Laboratory                    | 5                                         | Thermal Conductivity of Metal Rod Apparatus and Spherical Film Heat transfer coefficient apparatus. Dia. Pipe surface Apparatus            | Semester-I: 16                                                           | Mr. S. B. Jondhale          | Lab. Asst.  | ITI-Electrician     |
| 4      | Refrigeration & Air Conditioning Laboratory | 5                                         | Vapor Absorption Refrigeration Cycle Test RIG, VCR Mini Ice Plant, Air-conditioning Cycle Test Rig. Medium Air Conditioning Model 11000    | Semester-I: 16                                                           | Mr. S.B.Thorat              | Tech. Asst. | Diploma in Mechanic |
| 5      | Dynamics of Machinery Laboratory            | 5                                         | Wheel Balancing Machine, Centrifugal Governor, Vibration Lab Set-Up, Dynamic Balancing Machine Fundamental Set Up                          | Semester-I: 16                                                           | Mr. S.B.Thorat              | Tech. Asst. | Diploma in Mechanic |
| 6      | Theory of Machine Laboratory                | 5                                         | Clutch & Brake Lining Friction Testing Apparatus, Epicyclic Gear train Test Rig, Hydraulic Governor Model of Steam Engine                  | Semester-I: 16                                                           | Mr. S.T. Waman              | Tech. Asst. | Diploma in Mechanic |
| 7      | CAD CAM Laboratory                          | 5                                         | P-IV:03 C2D: 77 AMD:10 Core i7: 40 Intel i7 13th Generation-20 Interactive Flat Panel 86" IBM Model Series M4 System CAM Machine 7         | Semester -I: 20                                                          | Mrs.M.P. Pansare/ M         | Tech. Asst. | ME Comp /BCS        |
| 8      | Industrial Fluid Power Laboratory           | 5                                         | Hydraulic Accumulator & Intensifier, Pneumatic Trainer to perform different pneumatic circuits, Hydraulic Trainer with Accumulator, Oil Co | Semester -I: 16                                                          | Mr. M. S. Khurpe            | Tech. Asst. | Diploma in Mechanic |

|    |                                                                    |   |                                                                                             |                 |                     |                      |                        |
|----|--------------------------------------------------------------------|---|---------------------------------------------------------------------------------------------|-----------------|---------------------|----------------------|------------------------|
| 9  | Mechatronics Laboratory                                            | 5 | PLC Trainer, Ladder Programming software, PID Trainer, Temperature Sensor Calibration       | Semester -I: 16 | Mr. M. S. Khurpe    | Tech. Asst.          | Diploma in Mechanic    |
| 10 | PG and Research Laboratory                                         | 5 | Four Ball Tester, Pin on Disc Test Rig, Journal bearing test Rig and 3D Printer             | Semester -I: 04 | Mr. S. T. Waman     | Tech. Asst.          | Diploma in Mechanic    |
| 11 | Project /PBL Laboratory                                            | 5 | Drilling machine, Power Hacksaw machine, TIG welding, arc welding machine, Surface          | Semester -I: 16 | Mr. S. T. Waman     | Tech. Asst.          | Diploma in Mechanic    |
| 12 | Central Workshop                                                   | 5 | Lathe machine, CNC Lathe Machine Milling M/c, Cylindrical grinding machine, Surface         | Lathe machine   | Mr.Hodgar R.B. Mr.B | Instructor           | ITI Machinist ITI Turr |
| 13 | Testing of Materials Laboratory (Shared with Civil Engineering)    | 5 | Digital Universal Testing Machine (UTM), Compression Testing Machine (CTM), Torsion         | Semester –I 16  | Mr. S. T. Shinde    | Laboratory Assistant | ITI – Surveyor         |
| 14 | Fluid Mechanics Laboratory (Shared with Civil Engineering)         | 5 | Fluid Mechanics: Venturi meter / Orifice meter Apparatus, Notches Apparatus, Minor and      | Semester –I 06  | Mr. S. S. Godase    | Technical Assistant  | Diploma in Mechanic    |
| 15 | Fluid Machinery Laboratory                                         | 5 | Fluid Machinery: Francis Turbine test rig, Pelton Turbine test & Centrifugal pump test rig. | Semester –I 06  | Mr. V. V. Davkhare  | Lab. Asst.           | ITI-Diesel Mechanic.   |
| 16 | Engineering Metallurgy Laboratory (Shared with Automation and      | 5 | Rockwell and Brinell Hardness Tester, Vickers Hardness Tester, Poldi Hardness Tester,       | Semester –I 16  | Mr. Roham V.V.      | Technical Assistant  | Diploma in Mechanic    |
| 17 | Metrology and Quality Control (MQC) Laboratory (Shared with        | 5 | Optical Microscope, Optical Profile Projector, Monochromatic Light Source, Tool Makers      | Semester –II 1  | Mr. Kakad J.T.      | Technical Assistant  | Diploma in Mechanic    |
| 18 | Electrical Machine Laboratory (Shared with Electrical Engineering) | 5 | Electrical breaking of DC shunt Motor Test Rig., Demonstration of use of starter DC motor   | Semester –I 06  | Mr. Yash Inamdar    | Technical Assistant  | BE-Electrical          |

## D2. Safety Measures in Laboratories

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

| Sr. No | Laboratory Name                                                   | Safety Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | General (All Labs)                                                | 1. Fire extinguishers are available in each Laboratory (Company- Safe Zone Plus, Type- Dry powder, Weight- 2kg, Pressure- 30 kgf/cm2. Used for- Solid fire, liquid fire, gas fire, electric fire.) the dispensary by the medical officer. Also, an ambulance is available in campus for handling a medical emergency. 11. Major portion of the department is under CCTV surveillance. 2. For electrical safety, Miniature Circuit Breakers (MCB) and Earth Leakage Circuit Breaker (ELCB) are used. Also, instructions are displayed at prominent places. 3. 500 KVA Online Tap Changing Transformer (OLCT) is installed at a powerhouse with constant voltage output. 4. Safety instructions, as well as emergency contact numbers, are displayed. 5. First Aid Kit is available in the Department office. 6. Flammable chemicals are kept separately. 7. Cage for LPG cylinder outside Laboratory. 8. Fire Safety and Energy Audit is done frequently at the institute level. 9. The Microprocessor-based Automatic Power Factor Control (APFC) bank is installed at a powerhouse that maintains power factor 1 so that the wire is not heated beyond the limit. 10. Lightning arresters are installed in the institute premises to protect against lightning stroke. Medical facility is available for minor casualties in |
| 2      | Steam Power Lab                                                   | 1. Pressure triggering device is mounted on the boiler if pressure exceed the design pressure limit of the boiler. 2. Pressure safety valves available to relieve the excessive pressure. 3. Water sprinkler system is available for the safety in case of fire hazard. 4. Ensure the water supply in the boiler before starting the ignition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3      | Heat Engine Laboratory                                            | . Pressure safety valves are available on the receiver tank of the compressor to relieve the excessive pressure 2. Safety grill covers for engine moving components like fan, dynamometer coupling, and flywheels. 3. Safety Guards are mounted on belt drive of air compressor. 4. Oil level is regularly checked and maintained in the engine sump. 5. Engine cooling water supply is checked regularly to avoid overheating of engine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 4      | Refrigeration and Air Conditioning Laboratory                     | Safety Instructions: 1. Ensure the working of pressure gauges and condenser fan before starting of compressor in VCR system. 2. Increase the load gradually and do not overload the refrigeration system 3. Switch off the system if any refrigerant gas leakage is identified.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5      | Theory of Machines Laboratory<br>Dynamics of Machinery Laboratory | Safety Instructions: 1. The main frame of the static balancing of four masses is rigidly attached the foundation. 2. Do not start electric supply without ensuring Dimmer is at zero volt position 3. Do not touch the moving components 4. Do not allow the Gyroscope to rotate more than 360 Degree. 5. Do not put or add the weights in running condition of shock absorber testing. 6. Ensure that the speed regulator is at Minimum position before starting of clutch plate and Brake liners testing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 6      | Heat Transfer Laboratory                                          | Safety Instructions: 1. Check the sufficient amount of distilled water in the container of Critical Heat Flux apparatus. 2. Do not touch the water or terminal point after patting the switch on position. 3. Do not touch the copper tube while conducting the trial on Natural Convection apparatus. 4. Increase the voltage supply slowly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 7      | Industrial Fluid Power & Mechatronics Laboratory                  | Pressure relief valve is mounted on Hydraulic and Pneumatic Trainer kits to avoid the excess pressure. Safety Instructions: 1. Operate hydraulic pressure in specified limits only. 2. Do not over stress the switches and valves. 3. Do not increase the delivery pressure of Gear Pump device beyond 70 bar.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 8      | Project Laboratory<br>Central Workshop                            | Safety Instructions: 1. Students must wear apron and leather shoes. 2. While working on machine no one should engage in chatting and avoid crowding. 3. Do not spill oil and grease on floor. 4. Wear safety glasses, safety net guards, and Hand gloves and helmets whenever necessary. 5. Use Tongs to handle hot jobs 6. Remove the rings wrist watches, scrap neck tie etc prior to working on the machines.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 9      | Research Laboratory                                               | 1. Always close the safety cover of the four ball tester while taking the observation of the experimentation. 2. Do not touch the rotating part of the Pin on disc Apparatus. 3. Always close the safety cover of the instrument cabinet while in operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 10     | Industrial PBL Laboratory<br>CAD Laboratory                       | Sophos Firewall Network safety is installed at central level. Safety Instructions: 1. Do not use Flash drive, CD, hard disc without prior permission. If permitted, scan them for computer viruses. 2. Keep safe distance from the power backup and storage batteries. 3. Students should not attempt to repair, open, tamper or interfere with any of the computer, printing, network. 4. Try not to touch any of the circuit boards and power sockets when a device is connected to them and switched on. 5. Do not open the system unit casing or monitor casing particularly when the power is turned on.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|    |                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11 | <div data-bbox="204 107 633 203" data-label="Text"> <p>Fluid Machinery</p> </div> | <p>1. Do not operate any equipment without proper training and permission. 2. Check all electrical connections before switching on pumps and motors. 3. Do not touch electrical equipment with wet hands. 4. Ensure proper earthing of all electrical machines and control panels. 5. Switch off the power supply immediately in case of any fault or emergency. 6. Inspect pumps, turbines, pipes, valves, and measuring instruments before use. 7. Ensure that all rotating parts are properly covered with safety guards. 8. Open and close valves slowly to avoid water hammer effects. 9. Maintain the recommended water level in tanks and reservoirs. 10. Avoid sudden starting and stopping of pumps and turbines. 11. Clean any water spill immediately to prevent slipping accidents.</p> |
|----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**D3. Project Laboratory/Research Laboratory**

- There are a number of computational and experimental facilities in the Department of Mechanical Engineering to facilitate the students to carry out their final year projects. In addition, these facilities play a supporting/central role for some research projects as well.
- These facilities are important since a final year project is mandatory as a part of the coursework. Additionally, department has SAE Collegiate Club. The students use specially created project laboratory facility to design and fabricate various projects for competitions of SAE and other bodies such as SAE-BAJA (SUPRA, M-BAJA, E-BAJA), SAE-TIFAN, Solar Design Challenge, Aero Design etc.
- The additional equipment required for conducting the research projects in the area of tribology, alternative fuels, vibration and CAE, Friction Stir Welding (FSW) is available in the department.
- The institute also provides financial support, raw material and consumables required in the project lab to the students.
- Laboratories are made available for the students to carry out project work within and beyond working hours as per requirements.
- Central workshop facility is also made available to the students for fabrication work of projects during and after working hours.
- The hard copies of earlier projects completed by the students are made available to the students for study and reference.
- The industrial PBL Lab is also set-up in association with Mechatol Engineering Solutions, Pune to execute the industry projects for the exposure

Table 7.5.1: Number of projects conducted in laboratories

| S.N. | Laboratory / Year                | 2024 -2025 | 2023-2024 | 2022 -2023 |
|------|----------------------------------|------------|-----------|------------|
| 1.   | Heat Engine Laboratory           | 1          | 2         | 1          |
| 2.   | Heat Transfer Laboratory         | -          | -         | 2          |
| 3.   | Dynamics of Machinery Laboratory | -          | -         | 1          |
| 4.   | -CAD CAM Laboratory              | 9          | 3         | 2          |
| 5.   | PG and Research Laboratory       | 2          | 2         | 4          |
| 6.   | Project Laboratory               | 10         | 7         | 7          |
| 7.   | Central Workshop                 | 2          | 5         | 9          |
| 8.   | Industrial PBL Laboratory        | -          | -         | 1          |

Table 7.5.2.Utilization details of laboratories for project work.

| Sr. No | Name of Laboratories             | Facility                                                                                                                                                                                                                                                                               | Project Work<br>( Per Semester) |
|--------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| 1      | Heat Engine Laboratory           | Testing of alternative fuels on variable compression ratio engine.                                                                                                                                                                                                                     | 20+ Hrs                         |
| 2      | Heat Transfer Laboratory         | Testing on thermal conductivity Apparatus                                                                                                                                                                                                                                              | 20+ Hrs                         |
| 3      | Dynamics of Machinery Laboratory | Use of Automatic Balancing Machine, FFT analyzer, and Fatigue life Apparatus for vibration analysis                                                                                                                                                                                    | 20+ Hrs                         |
| 4      | CAD CAM Laboratory               | Use of application software's such as Creo, CATIA/ANSYS, MATLAB etc.                                                                                                                                                                                                                   | 300+ Hrs                        |
| 5      | PG and Research Laboratory       | Testing on four Ball Tester, Pin on Disk Apparatus, general bearing apparatus and 3D Printer                                                                                                                                                                                           | 40+ Hrs                         |
| 6      | Project Laboratory               | Use of TIG/ARC Welding, drilling, Power saw, Cutting machine, air compressor etc for fabrication work.                                                                                                                                                                                 | 300+ Hrs.                       |
| 7      | Central Workshop                 | USE OF Lathe machine, CNC Lathe Machine Milling M/c, Cylindrical grinding machine, Surface Grinder, TIG Welding machine Planer machine Radial, Drill Machine, Precision Center less grinder, Tool &Cutter grinder, MIG Welding Machine, Hydraulic Hacksaw, Shearing machine Power etc. | 100+ Hrs                        |
| 8      | Industrial PBL                   | Platform for the students to execute Industrial Projects in association with Mechatol Engineering Product Solutions, Pune.<br><br>Dedicated space with 05 desktop and required                                                                                                         | 30+ Hrs                         |

1. Participated in SAE TIFAN 2025 completion, at MPKV Rahuri, Maharashtra 23<sup>rd</sup> to 27<sup>th</sup> April 2025

**1<sup>st</sup> runner-up of prize Rs.100000/-(one Lakh only)**

**First prize of BEST Prize Productivity Rs.25000/-(Twenty five thousand only)**



2. SAE REEV Virtual 2023-24 on 4<sup>th</sup> November –

**1<sup>st</sup> Runner up with Prize Rs.25000/-(Twenty five thousand only)**



**3.Event: ISIE E-BIKE Challenge2026-**

Outstanding innovation, forward-thinking design, and potential for future electric mobility solutions

Fastest acceleration performance among all competing e-bike



## 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 $\frac{((NS1 \times 0.8) + (NS2 \times 0.2))}{(\text{No. of required faculty (RF4)})}$ ; Percentage= $\frac{((NS1 \times 0.8) + (NS2 \times 0.2))}{RF}$ |
|----------------|-------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2023-24(CAYm2) | 840                                       | 42                                   | 15                                                                                                                  | 49                                                          | 52                                                                                                                                                                                         |
| 2024-25(CAYm1) | 960                                       | 48                                   | 19                                                                                                                  | 56                                                          | 55                                                                                                                                                                                         |
| 2025-26(CAY)   | 1020                                      | 51                                   | 19                                                                                                                  | 60                                                          | 53                                                                                                                                                                                         |

### 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                  | 38500000            | 58624483                        | 35000000            | 44024355                        | 29800000            | 23836341                        | 18000000            | 23836933                        |
| Library                                  | 3700000             | 2712589                         | 3630000             | 2975874                         | 3300000             | 2295325                         | 3000000             | 2410812                         |
| Laboratory equipment                     | 34000000            | 36709245                        | 29000000            | 23436219                        | 27500000            | 35612324.8                      | 25000000            | 22641782.5                      |
| Teaching and non-teaching staff salary   | 340000000           | 327818625                       | 320000000           | 295326769                       | 280000000           | 265459527                       | 210000000           | 244724658                       |
| Outreach Programs                        | 3300000             | 1588155                         | 3025000             | 1272155                         | 2700000             | 1125993                         | 1500000             | 1590488                         |
| R&D                                      | 3751000             | 4521987                         | 3410000             | 3518260                         | 3100000             | 1685961                         | 3000000             | 1396796                         |
| Training, Placement and Industry linkage | 4235000             | 5145564                         | 3850000             | 3012336                         | 3500000             | 2103012                         | 3000000             | 729181                          |
| SDGs                                     | 3327500             | 3825179                         | 3025000             | 11548383                        | 3000000             | 4087365                         | 2500000             | 6822787                         |
| Entrepreneurship                         | 200000              | 240797                          | 150000              | 64377                           | 50000               | 6500                            | 50000               | 7000                            |
| Others, specify                          | 21265000            | 17807743                        | 21050000            | 16447126                        | 19000000            | 21173162                        | 15000000            | 15831650.69                     |
| <b>Total</b>                             | <b>452278500</b>    | <b>458994367</b>                | <b>422140000</b>    | <b>401625854</b>                | <b>371950000</b>    | <b>357385510.8</b>              | <b>281050000</b>    | <b>319992088.19</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                             | 3500000             | 3414795                         | 3500000             | 3185675                         | 4000000             | 1774121                         | 4000000             | 3583766                         |
| Software                                         | 00                  | 00                              | 1200000             | 1598900                         | 800000              | 00                              | 00                  | 00                              |
| SDGs                                             | 670000              | 758590                          | 663000              | 2291162                         | 650000              | 807380                          | 600000              | 1347710                         |
| Support for faculty development                  | 150000              | 133457                          | 150000              | 39169                           | 150000              | 69741                           | 150000              | 138072                          |
| R & D                                            | 800000              | 766941                          | 750000              | 794982                          | 700000              | 633899                          | 500000              | 400241                          |
| Industrial Training, Industry expert, Internship | 100000              | 44500                           | 100000              | 68420                           | 100000              | 62778                           | 100000              | 28700                           |
| Miscellaneous Expenses*                          | 300000              | 216506                          | 300000              | 251142                          | 300000              | 137433                          | 300000              | 203902                          |
| <b>Total</b>                                     | <b>5520000</b>      | <b>5334789</b>                  | <b>6663000</b>      | <b>8229450</b>                  | <b>6700000</b>      | <b>3485352</b>                  | <b>5650000</b>      | <b>5702391</b>                  |