NATIONAL BOARD OF ACCREDITATION

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

Note: To save Data Capturing Points as PDF Please click on print button and select destination as 'Save as PDF'. PLEASE SELECT LANDSCAPE MODE.

| | |
|---|---|
| **Program Name** : Mechanical Engineering | **Discipline**: Engineering & Technology |
| **Level** : Under Graduate | **Tier**: 1 |
| **Application No**: 10565 | **Date of Submission**: 28-05-2025 |

# PART A- Profile of the Institute

| | |
|---|---|
| **A1.Name of the Institute**: BMS Institute of Technology and Management | |
| Year of Establishment : 2002 | Location of the Institute: Bangalore |
| **A2. Institute Address**:Dodaballapur Road, Avalahalli, Yelahanka, | |
| City:Bangalore Urban | State:Karnataka |
| Pin Code:560064 | Website:https://bmsit.ac.in |
| Email:principal@bmsit.in | Phone No(with STD Code):080-68730402 |
| **A3. Name and Address of the Affiliating University (if any)**: | |
| Name of the University : Visvesvaraya Technological University | City: |
| State : | Pin Code: 0 |
| **A4. Type of the Institution**: Deemed University | |
| **A5. Ownership Status**: 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 | Computer Application | PG | Master of Computer Application | 2003 | -- | Computer Application |
| 2 | Engineering & Technology | UG | Artificial Intelligence and Machine Learning | 2019 | -- | Artificial Intelligence and Machine Learning |
| 3 | Engineering & Technology | UG | Civil Engineering | 2013 | -- | Civil Engineering |
| 4 | Engineering & Technology | UG | Computer Science and Business System | 2023 | -- | Computer Science and Business System |
| 5 | Engineering & Technology | UG | Computer Science and Engineering | 2002 | -- | Computer Science and Engineering |
| 6 | Engineering & Technology | PG | Computer Science and Engineering | 2014 | -- | Computer Science and Engineering |
| 7 | Engineering & Technology | PG | Cyber Security | 2022 | -- | Information Science and Engineering |

| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | Engineering & Technology | UG | Electrical & Electronics Engineering | 2003 | -- | Electrical and Electronics Engineering |
| 9 | Engineering & Technology | UG | Electronics & Communication Engineering | 2002 | -- | Electronics and Communication Engineering |
| 10 | Engineering & Technology | UG | Electronics and Telecommunication Engineering | 2003 | -- | Electronics and Telecommunication Engineering |
| 11 | Engineering & Technology | UG | Information Science & Engineering | 2010 | -- | Information Science and Engineering |
| 12 | Engineering & Technology | UG | Mechanical Engineering | 2002 | -- | Mechanical Engineering |
| 13 | Management | PG | Master of Business Administration | 2022 | -- | 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 |
|---|---|---|---|
| Artificial Intelligence and Machine Learning | Yes | Artificial Intelligence and Machine Learning | UG |
| Computer Science and Engineering | Yes | Computer Science and Engineering | UG |
| Mechanical Engineering | No | Mechanical Engineering | UG |
| Electronics and Communication Engineering | No | Electronics & Communication Engineering | UG |

Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as above.
Cluster ID. Name of the Department (in table no. A7.1) Name of allied Departments/Cluster (for table no. A7.1)

| |
|---|
| No Record |

# PART-B: Program information

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

Table No. B1: Program details.
A. List of the Programs Offered by the Department:

| SR.NO. | PROGRAM NAME | PROGRAM APPLIED LEVEL | YEAR OF START / YEAR OF CLOSED | SANCTIONED INTAKE | INCREASE/DECREASE INTAKE (if any) | YEAR OF INCREASE/DECREASE | CURRENT INTAKE | YEAR OF AICTE APPROVAL | AICTE/COMPETENT AUTHORITY ARROVAL DETAILS | ACCREDITATION STATUS | FROM | TO | NO. OF TIMES PROGRAM ACCREDITED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Mechanical Engineering | UG | 2002 / -- | 60 | No | NA | 60 | 2002 | F.No. South-West/1-43664536384/2024/EOA/Corrigendum-1 | Granted provisional accreditation for two years for the period(specify period) | 2016 | 2025 | 2 |

List of the Allied Departments/Cluster and Programs:

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

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

**B3. Program Details**

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

| Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable) | 2024-25 (CAY) | 2023-24 (CAYm1) | 2022-23 (CAYm2) | 2021-22 (CAYm3) | 2020-21 (CAYm4) | 2019-20 (CAYm5) | 2018-19 (CAYm6) |
|---|---|---|---|---|---|---|---|
| N=Sanctioned intake of the program (as per AICTE /Competent authority) | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| 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 | 60 | 53 | 37 | 34 | 43 | 47 | 59 |
| N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats | 0 | 6 | 24 | 29 | 15 | 15 | 5 |
| N3=Separate division if any | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N4=Total no. of students admitted in the 1st year via all supernumerary quotas | 3 | 3 | 4 | 4 | 5 | 7 | 7 |
| Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points. | 63 | 62 | 65 | 67 | 63 | 69 | 71 |

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

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

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

| Year of entry | N (From Table 4.1) | N1 (From Table 4.1) | N4 (From Table 4.1) | Enrollment Ratio [(N1/N)*100] |
|---|---|---|---|---|
| 2024-25 (CAY) | 60 | 3 | 0 | 105.00 |
| 2023-24 (CAYm1) | 60 | 3 | 0 | 93.33 |
| 2022-23 (CAYm2) | 60 | 4 | 0 | 68.33 |

Average [ (ER1 + ER2 + ER3) / 3 ] = 88.89≡ 17.00

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

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

| Item | (2020-21) LYG | (2019-20) LYGm1 | (2018-19) LYGm2 |
|---|---|---|---|
| A*= (No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any). | 75.00 | 75.00 | 71.00 |
| B=No. of students who graduated from the program in the stipulated course duration | 55.00 | 64.00 | 64.00 |
| Success Rate (SR)= (B/A) * 100 | 73.33 | 85.33 | 90.14 |

Average SR of three batches ((SR_1+ SR_2+ SR_3)/3): 82.93

**B6. Academic Performance of the First-Year Students of the Program**

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

| Academic Performance | CAYm1( 2023-24 ) | CAYm2( 2022-23 ) | CAYm3 ( 2021-22 ) |
|---|---|---|---|
| Mean of CGPA or mean percentage of all successful students(X) | 6.32 | 6.54 | 5.24 |
| Y=Total no. of successful students | 55.00 | 32.00 | 35.00 |
| Z=Total no. of students appeared in the examination | 62.00 | 40.00 | 36.00 |
| API [X*(Y/Z)] | 5.61 | 5.23 | 5.09 |

Average API[ (AP1+AP2+AP3)/3 ] : 5.31

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

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

| Academic Performance | CAYm1 ( 2023-24 ) | CAYm2 ( 2022-23 ) | CAYm3 ( 2021-22 ) |
|---|---|---|---|
| X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2rd year/10) | 6.59 | 5.88 | 6.12 |
| Y=Total no. of successful students | 50.00 | 62.00 | 60.00 |
| Z=Total no. of students appeared in the examination | 56.00 | 64.00 | 64.00 |
| API [ X * (Y/Z) ] | 5.88 | 5.70 | 5.74 |

Average API [ (AP1 + AP2 + AP3)/3 ] : 5.77

**B8. Academic Performance of the Third Year Students of the Program**

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

| Academic Performance | CAYm1 (2023-24) | CAYm2 (2022-23) | CAYm3 (2021-22) |
|---|---|---|---|
| X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10) | 6.45 | 5.17 | 6.66 |
| Y=Total no. of successful students | 62.00 | 56.00 | 65.00 |
| Z=Total no. of students appeared in the examination | 62.00 | 60.00 | 65.00 |
| API [ X*(Y/Z) ]: | 6.45 | 4.83 | 6.66 |

Average API [ (AP1 + AP2 + AP3)/3 ] : 5.98

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

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

| Item | LYG (2020-21) | LYGm1(2019-20) | LYGm2(2018-19) |
|---|---|---|---|
| FS*=Total no. of final year students | 75.00 | 75.00 | 65.00 |
| X=No. of students placed | 32.00 | 45.00 | 45.00 |
| Y=No. of students admitted to higher studies | 2.00 | 6.00 | 8.00 |
| Z= No. of students taking up entrepreneurship | 3.00 | 0.00 | 1.00 |
| Placement Index(P) = (((X + Y + Z)/FS) * 100): | 49.33 | 68.00 | 83.08 |

Average Placement Index = (P_1 + P_2 + P_3)/3: 66.80 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 K M Sathish Kumar | XXXXXXX22L | Ph.D | Visvesvaraya Technological University | Computer integrated Manufacturing | 23/09/2004 | 20.8 | Lecturer | Professor | | Regular | Yes | | No |
| 2 | Dr Madhu MC | XXXXXXX63E | Ph.D | Visvesvaraya Technological University | Thermal Power Engineering | 08/08/2014 | 10.9 | Assistant Professor | Assistant Professor | | Regular | Yes | | Yes |
| 3 | Dr Chethan D | XXXXXXX15G | Ph.D | Visvesvaraya Technological University | Machine Design | 05/09/2024 | 0.8 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 4 | Dr O Gurumurthy | XXXXXXX88M | Ph.D | Visvesvaraya Technological University | Mechanical Engineering | 01/09/2005 | 19.8 | Lecturer | Assistant Professor | | Regular | Yes | | No |
| 5 | Dr Shripad Diwakar | XXXXXXX85C | Ph.D | Visvesvaraya Technological University | Thermal Science and Engineering | 22/09/2008 | 16.8 | Lecturer | Assistant Professor | | Regular | Yes | | No |
| 6 | Dr Kiran MD | XXXXXXX90J | Ph.D | Visvesvaraya Technological University | Machine Design | 03/08/2015 | 9.9 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 7 | Dr Manjunatha C | XXXXXXX64A | Ph.D | Visvesvaraya Technological University | Machine Design | 24/03/2025 | 0.2 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 8 | Dr G L Anantha Krishna | XXXXXXX41L | Ph.D | Visvesvaraya Technological University | Design Engineering | 29/10/2007 | 17.7 | Lecturer | Associate Professor | | Regular | Yes | | No |
| 9 | Dr. Jadadeesh Y J | XXXXXXX04G | Ph.D | Visvesvaraya Technological University | Thermal Power Engineering | 04/03/2013 | 12.2 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 10 | Dr. Keerthi Kumar N | XXXXXXX97D | Ph.D | Visvesvaraya Technological University | Thermal Power Engineering | 01/07/2014 | 10.10 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 11 | Dr. Avinash G | XXXXXXX98D | Ph.D | IIT Madras | Thermal Science and Engineering | 08/07/2019 | 5.10 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | Dr. Nagamadhu M | XXXXXXX93K | Ph.D | NITK Surathkal | Machine Design | 25/10/2021 | 3.7 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 13 | Dr. Srinidhi Acharya S R | XXXXXXX00D | Ph.D | Visvesvaraya Technological University | Machine Design | 09/10/2024 | 0.7 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 14 | Dr. H K Govindaraju | XXXXXXX09K | Ph.D | Visvesvaraya Technological University | Machine Design | 22/11/2012 | 11.8 | Professor | Professor | 22/11/2012 | Regular | No | 31/07/2024 | No |
| 15 | Dr. Ravichandra K R | XXXXXXX84N | Ph.D | University of Malaysia | Manufacturing Science | 28/10/2021 | 3 | Assistant Professor | Assistant Professor | | Regular | No | 20/11/2024 | No |
| 16 | Mr Chandrasekhar Reddy K | XXXXXXX99H | M.E/M.Tech | SV University Tirupathi | Industrial Engineering | 25/06/2007 | 17.10 | Lecturer | Assistant Professor | | Regular | Yes | | No |
| 17 | Mr TN Praveen Kumar | XXXXXXX67E | M.E/M.Tech | Kuvempu University | Production Engineering systems | 30/08/2004 | 20.8 | Lecturer | Associate Professor | 30/08/2004 | Regular | Yes | | No |
| 18 | Mrs Nitya Poornima | XXXXXXX83G | M.E/M.Tech | Visvesvaraya Technological University | Computer integrated Manufacturing | 05/02/2009 | 16.2 | Lecturer | Assistant Professor | | Regular | Yes | | No |
| 19 | MR Sriganesh TG | XXXXXXX11J | M.E/M.Tech | Visvesvaraya Technological University | Computer integrated Manufacturing | 01/03/2012 | 13.2 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |
| 20 | Mr Sundaresh S | XXXXXXX82M | M.E/M.Tech | Visvesvaraya Technological University | Product Design and Manufacturing | 16/08/2012 | 12.8 | Assistant Professor | Assistant Professor | | Regular | Yes | | No |

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

**C2. Student-Faculty Ratio (SFR)**

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):
UG1=1st UG program
UGn=nth UG program
**B**= No. of Students in UG 2nd year (ST)
**C**= No. of Students in UG 3rd year (ST)
**D**= No. of Students in UG 4th year (ST)
No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):
PG1=1st PG program.
PGm=mth PG program
**A**= No. of Students in PG 1st year
**B**= No. of Students in PG 2nd year
Student Faculty Ratio **(SFR)** = S/F
S= No. of students of all programs in the Department including all students of allied departments/clusters.
**No. of students (ST)**=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)
Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.
**F**=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

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

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

| Description | CAY(2024-25) | CAYm1 (2023-24) | CAYm2 (2022-23) |
|---|---|---|---|
| UG1.B | 66 | 66 | 66 |
| UG1.C | 66 | 66 | 66 |
| UG1.D | 66 | 66 | 66 |
| **UG1: Mechanical Engineering** | **198** | **198** | **198** |
| DS=Total no. of students in all UG and PG programs in the Department | 198 | 198 | 198 |
| AS=Total no. of students of all UG and PG programs in allied departments | 0 | 0 | 0 |
| S=Total no. of students in the Department (DS) and allied departments (AS) | **S1=** 198 | **S2=** 198 | **S3=** 198 |
| DF=Total no. of faculty members in the Department | 15 | 17 | 17 |
| AF= Total no. of faculty members in the allied Departments | 0 | 0 | 0 |
| F=Total no. of faculty members in the Department (DF) and allied Departments (AF) | **F1=** 15 | **F2=** 17 | **F3=** 17 |
| FF=The faculty members in F who have a 100% teaching load in the first-year courses | 6 | 6 | 6 |
| Student Faculty Ratio (SFR)=S/(F-FF) | **SFR1= 22.00** | **SFR2= 18.00** | **SFR3= 18.00** |
| Average SFR for 3 years | **SFR= 19.33** | | |

**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 x [(10X + 4Y) / RF )] |
|---|---|---|---|---|
| 2024-25(CAY) | 10 | 5 | 9.00 | 33.33 |
| 2023-24(CAYm1) | 11 | 6 | 9.00 | 37.22 |
| 2022-23(CAYm2) | 10 | 7 | 9.00 | 35.56 |

**C4. Faculty Cadre Proportion**

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

Table No.C4.1: Faculty cadre proportion details.

| Year | Professors | | Associate Professors | | Assistant Professors | |
|---|---|---|---|---|---|---|
| | Required RF1 | Available AF1 | Required RF2 | Available AF1 | Required RF3 | Available AF3 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2024-25 | 1.00 | 1.00 | 2.00 | 1.00 | 6.00 | 13.00 |
| 2023-24 | 1.00 | 2.00 | 2.00 | 1.00 | 6.00 | 14.00 |
| 2022-23 | 1.00 | 2.00 | 2.00 | 1.00 | 6.00 | 14.00 |
| Average | RF1=1.00 | AF1=1.67 | RF2=2.00 | AF2=1.00 | RF2=6.00 | AF2=13.67 |

**C5. Visiting/Adjunct Faculty/Professor of Practice**

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

**(CAYm1)**

| S.No | Name of the Person | Designation | Organization | Name of the Course | No. of hours handled |
|---|---|---|---|---|---|
| 1 | Mrs. Anjana Sinha | Visiting Professor | Bangalore University | Biology for Engineers | 26.00 |

**(CAYm2)**

**(CAYm3)**

**C6. Academic Research**

Table No. C6.1: Faculty publication details.

| S.No. | Item | 2023-24 (CAYm1) | 2022-23 (CAYm2) | 2021-22 (CAYm3) |
|---|---|---|---|---|
| 1 | No. of peer reviewed journal papers published | 11 | 12 | 16 |
| 2 | No. of peer reviewed conference papers published | 7 | 3 | 0 |
| 3 | No. of books/book chapters published | 2 | 4 | 0 |

**C7. Sponsored Research Project**

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

**(CAYm1)**

| PI Name | Co-PI names if any | Name of the Dept., where project is sanctioned | Project Title* | Name of the Funding agency | Duration of the project | Amount(Lacs) i.e. 15,25,000=15.25 |
|---|---|---|---|---|---|---|
| Dr. Ravichandra K R | Dr. Jyoti C Abbar | Mechanical Engineering | High Performance Na-ion Rechargeable Batteries with Covalently Coupled f-Carbon Black and Organic Electro active material | AISTDF Secretariat, Anusandhan National Research Foundtaion(ANRF) | 2 Years | 15.00 |
| | | | | | | Amount received (Rs.):15.00 |

**(CAYm2)**

**(CAYm3)**

**Total Amount (Lacs) Received for the Past 3 Years: 15.00**

**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) i.e. 15,25,000=15.25 |
|---|---|---|---|---|---|---|
| Dr.Keerthikumar N | | Mechanical Engineering | Power Generation through Wind | Gaama Bytes Pvt Limited | 8/10/2023 | 0.09 |
| Dr.Kiran M D | | Mechanical Engineering | Wear Testing | Novus Tribo Solution | 13/02/2024 | 0.03 |
| Dr.Kiran M D | | Mechanical Engineering | Wear Testing | Novus Tribo Solution | 21/03/2024 | 0.01 |
| Dr.Kiran M D | | Mechanical Engineering | Wear Testing | NMIT,Bengaluru | 21/03/2024 | 0.02 |
| Dr.Kiran M D | | Mechanical Engineering | Wear Testing | Novus Tribo Solution | 05/06/2024 | 0.03 |
| Dr.Kiran M D | | Mechanical Engineering | Wear Testing | Novus Tribo Solution | 09/07/2024 | 0.10 |
| Dr.Kiran M D | | Mechanical Engineering | Wear Testing | Dayanand Sagar College, Bengaluru | 30/09/2024 | 0.02 |
| | | | | | | Amount received (Rs.):0.30 |

**(CAYm2)**

| PI Name | Co-PI names if any | Name of the Dept., where project is sanctioned | Project Title* | Name of the Funding agency | Duration of the project | Amount(Lacs) i.e. 15,25,000=15.25 |
|---|---|---|---|---|---|---|
| P K Ramamurthy | | Mechanical Engineering | Providing the grills in Common areas in Boys hostel- A block | Consultancy work | 31/03/2023 | 10.83 |
| P K Ramamurthy | | Mechanical Engineering | Providing the grills in Common areas in Boys hostel- A block BMSIT&M campus | Consultancy | 01/06/2023 | 4.29 |
| Dr. Ravichandra K R | | Mechanical Engineering | Optimizing Welding parameters and welded joints between Li-Ion cell and bus body using RSW. | M/s. Retheum Power tech, Bengaluru | 16/12/2022 | 0.60 |
| Dr. Keerthikumar N | | Mechanical Engineering | 3-D modeling of power generation through the magnetic flux | Consultancy | 09/01/2023 | 0.10 |
| | | | | | | Amount received (Rs.):15.82 |

**(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) i.e. 15,25,000=15.25 |
|---|---|---|---|---|---|---|
| P K Ramamurthy | | Mechanical Engineering | Providing the grills in Common areas in Boys hostel- A block BMSIT&M campus | Consultancy | 03/07/2022 | 5.20 |
| Dr. Keerthikumar N | | Mechanical Engineering | Sustainable hydro power generation for rural area | Consultancy | 14/06/2022 | 0.53 |
| Dr. Keerthikumar N | | Mechanical Engineering | Test on Computerized IC Engine Test Rig | Consultancy | 01/09/2021 | 0.02 |
| Dr. Kiran M D | | Mechanical Engineering | Fatigue Test | Consultancy | 29/10/2021 | 0.05 |
| Dr. Kiran M D | | Mechanical Engineering | Fatigue Test | Consultancy | 06/01/2022 | 0.02 |
| Dr. Keerthikumar N | | Mechanical Engineering | Test on Computerized IC Engine Test Rig | Consultancy | 15/12/2021 | 0.04 |
| Dr. Kiran M D | | Mechanical Engineering | Computerized Impact Testing | Consultancy | 05/03/2022 | 0.04 |
| Dr. Keerthikumar N | | Mechanical Engineering | To find the oil properties | Consultancy | 17/05/2022 | 0.01 |
| Dr. Keerthikumar N | | Mechanical Engineering | Test on Computerized IC Engine Test Rig | Consultancy | 05/05/2022 | 0.01 |
| Sundaresh S | | Mechanical Engineering | Surface roughness test by Talysurf Instrumen | Consultancy | 05/05/2022 | 0.01 |
| Dr. Keerthikumar N | | Mechanical Engineering | Test on Computerized IC Engine Test Rig | Consultancy | 27/04/2022 | 0.01 |
| Dr. Keerthikumar N | | Mechanical Engineering | Test on Computerized IC Engine Test Rig | Consultancy | 19/04/2022 | 0.03 |
| Dr. Kiran M D | | Mechanical Engineering | Fatigue Test | Consultancy | 12/04/2022 | 0.01 |
| | | | | | | Amount received (Rs.):5.98 |

**Total amount (Lacs) received for the past 3 years: 22.10**

**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) i.e. 15,25,000=15.25 | Amount Utilized(Lacs) i.e. 15,25,000=15.25 | Outcomes of the project |
|---|---|---|---|---|---|
| Dr. Shripad Diwakar | Design and Development of Kart for Indian Karting Race(IKR)-2023 competition | 6 months | 2.88 | 2.88 | Practical experience, skill development, industry exposure, awards and recognition for top performers. |
| Dr.Ravichandra K R | Robotic Aerial and Planetary Terrain Operation Rover | 10 months | 1.00 | 1.00 | Practical experience, skill development, industry exposure, awards and recognition for top performers. |
| | | | Amount received (Rs.): 3.88 | | |

**(CAYm2)**

| Faculty name | Project title/ Support for Activity | Duration of the project | Amount(Lacs) i.e. 15,25,000=15.25 | Amount Utilized(Lacs) i.e. 15,25,000=15.25 | Outcomes of the project |
|---|---|---|---|---|---|
| Dr. Shripad Diwakar | Design and Development of Kart for Indian Karting Race(IKR)-2022 competition | 6 months | 1.84 | 1.84 | Practical experience, skill development, industry exposure, awards and recognition for top performers. |
| | | | Amount received (Rs.): 1.84 | | |

**(CAYm3)**

| Faculty name | Project title/ Support for Activity | Duration of the project | Amount(Lacs) i.e. 15,25,000=15.25 | Amount Utilized(Lacs) i.e. 15,25,000=15.25 | Outcomes of the project |
|---|---|---|---|---|---|
| | | | | | |
| | | | Amount received (Rs.): 0 | | |

**Total amount (Lacs) received for the past 3 years : 5.72**

# 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 | Computer Aided Engineering Drawing (CAED) Lab. | 60 | Computer(84No.) Solid Edge V19 with 60 User, Solid Works 2021 with 500, User/campus license, Laser Jet Printer(2No.) Projector(2No.) UPS | 28 Hours (14 E | Mr. Sreenivas K. A | Assistant Instructor | DME |
| 2 | Material Testing | 20 | a) Universal Testing Machine b) Brinell Hardness Tester c)Vickers Hardness Tester d)Wear and Friction Monitor machine e) Torsion Testing Machine f) Double Disc | 6 hours (3 Batc | Mr. Venkatesha R | Instructor | ITI, DME |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | Computer Aided Machine Drawing (CAMD) Lab. | 20 | a) Computers(30No.) b) Solid Edge V19(60 user) c)Solid works (500 user /campus license) d) Printer e) Projector f) UPS | 6 Hours (3 Bat | Mr. Ananda R | Instructor | DME |
| 4 | Foundry, Forging and Welding Lab. | 20 | a) Sieve analysis tester(02No.) b) Universal Sand Testing c) Machine for foundry sand testing (2No.) d)Clay Content Tester(2No.) e) Permeability | 6 Hours (Batch | Mr. Pradeep C | Assistant Instructor | ITI, (Diploma) |
| 5 | Machine Shop and Workshop Practice Lab. | 20 | a) CNC Turning Machine b) Lathes(12No.) c)Shaping Machines(2No.) d)Milling Machine e) Radial Drilling Machine f) Power Hacksaw Machine g) Grinding | 6 Hours (Batch | Mr. Ashok G C | Assistant Instructor | ITI,(Diploma) |
| 6 | Mechanical Measurements & Metrology Lab. | 20 | a) Load Cell b) LVDT c)Slip Gauge d)Thermocouple e) Micrometers(3No.) f) Sine Bar(2No.) g) Bevel Protractor h) Sine Center i)Roller Set j) Gear Tooth | 6 Hours (Batch | Mr. Venkatesha R | Instructor | ITI, DMI |
| 7 | Fluid Mechanics and Machinery Lab. | 20 | a) Pelton Wheel Turbine b) Francis Turbine c)Kaplan Turbine d)Centrifugal Pump e) Reciprocating Pump f) Air compressor g) Air Blower Apparatus h) Venturi | 6 Hours (Batch | Mr. Sreenivasa | Instructor | ITI, DME |
| 8 | Computer Aided Modelling & Analysis Lab. | 20 | Computers (30No.) ANSYS (25 User) | 6 hours (3 Batc | Mr. Ashok G C Mr. Anand | Instructor | DME |
| 9 | Energy Conversion Engineering Lab. | 20 | a) Four Stroke Petrol Engine b) Four Stroke Diesel Engine c)V.C.R. Petrol Engine Test Rig d)Two Stroke Petrol Engine Computerized single cylinder four stroke | 6 hours (3 Batc | Mr. Ashok G C | Assistant Instructor | ITI (Diploma) |
| 10 | Heat and Mass Transfer Lab. | 20 | a) Thermal conductivity Apparatus b) Composite Wall Apparatus c)Drop Wise & Film Wise Condensation Apparatus d)Parallel and Counter flow Heat Exchanger | 6 Hours (3 Bat | Mr. Sreenivasa | Instructor | ITI, DME |
| 11 | CIM and Automation Lab. | 20 | a) Computers (30No.) with UPS b) Hydraulic and Pneumatic Trainer Kit c)CADEM V10 (Software), CAPS THRN, CAPS MILL, CNC THRN, CNC MILL (05 | 6 Hours (3 Bat | Mr. Umashankar | Instructor | ITI, NAC |
| 12 | Automation Lab. | 20 | a) Advanced Pneumatic Trainer kit Advanced electro Pneumatic Trainer kit b) PLC add on module for Pneumatics with Digital I/Os, Vertical workbench with | 06 hours (3 Ba | Mr. Umashankar | Instructor | ITI, NAC |
| 13 | Internet of Thing Lab. | 20 | a) ESP32-DevKitC-VE Development Board b)Arduino Uno R4 Development Board, Motor Driver/Stepper/Servo Shield for Arduino c)Raspberry | 06 hours (3 Ba | Mr. Sreenivas K. A | Assistant Instructor | DME |
| 14 | Electrical Vehicle Lab. | 20 | a) Chassis Dynamometer with display unit, Raspberry Pi-based software. b) Two-wheeler data acquisition system with BMS and MCU parameter controlling | 06 hours (3 Ba | Mr. Ashok G C | Assistant Instructor | ITI (Diploma) |

**D2. Safety Measures in Laboratories**

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

| Sr. No | Laboratory Name | Safety Measures |
|---|---|---|
| 1 | Mechanical Measurements & Metrology Lab. | Fire extinguisher: 01No. First aid box Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 2 | Foundry & Forging Lab. | Fire extinguisher: 01No. First aid box. Safety precautions are displayed on laboratory notice board & Laboratories manual Safety goggles. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |

| | | |
|---|---|---|
| 3 | Machine Shop and Basic Workshop Practice lab. | First Aid kit provided. Personnel protection Accessories like welding Goggles, Asbestos gloves etc. Fire extinguisher: 02No. Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety. |
| 4 | Fluid Mechanics & Machines Lab. | Fire extinguishers: 01No. Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 5 | Energy Conversion<br>Engineering (EC) lab. | Fire extinguishers: 02No. Safety precautions are displayed on laboratory notice board & Laboratory manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 6 | CAM & Analysis (CAMA) Lab. | Fire extinguishers: 01No. Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 7 | Heat & Mass Transfer (HMT) Lab. | Fire extinguisher: 01No. Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 8 | Design Lab. | Fire extinguisher: 01No. Safety precautions are displayed on laboratory notice board &Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 9 | CIM & Automation Lab. | Fire extinguisher: 01No. Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety. |
| 10 | Computer Aided Engineering Drawing (CAED) Lab | Fire extinguisher: 01No. Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 11 | Computer Aided Machine Drawing (CAMD) Lab. | Fire extinguisher:01No. Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. MCB/ELCB provided for safety. |
| 12 | Material Testing (M&T) Lab. | Fire extinguishers:02No. Safety precautions are displayed on laboratory notice board & Laboratories manual. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 13 | Centre of Excellence/<br>Industry Attached Lab. | Fire extinguishers:01No. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB |

| | | |
|---|---|---|
| 14 | CNC Lab. | Fire extinguishers First Aid kit provided Safety goggles. Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |
| 15 | Motorhead lab. | Fire extinguishers First Aid kit provided Students are instructed to come with safety clothing safety shoes for the labs. Safety instructions are given before fabrication/testing. MCB/ELCB provided for safety |
| 16 | Electrical Vehicle Lab. | Fire extinguishers First Aid kit provided Students are instructed to come with safety clothing/uniform and safety shoes for the labs. Safety instructions are given before conduction of the experiments. MCB/ELCB provided for safety |

**D3. Project Laboratory/Research Laboratory**

**7.5: Project Laboratory/Research Laboratory/Centre of excellence**

**7.5 PROJECT LABORATORY**

**Project Laboratories equipment details**

a) Electric Resistance furnace 16KW

b) Metal dies

c)Stir casting machine

d)Hand Grinding machine

e) Pipe bending Machine

f) Arc Welding Machine

g) Hand Drilling Machine

h) Gas welding machine

i)Bench Vise

j) Cut-Off Machine

**MOTOR HEAD Project Lab.**

Pliers(8no.)

Side Cutting Plier (2No.)

Cutter Various Types (6No.)

Hammers (4No.)

Screw Drivers(8No.)

Drive Hex Socket Set

Pipe Vice - Self Locking Heavy Duty(2No.)

Chisels(2No.)

Grease Gun-With Fixed Spout

Calipers And Spring Dividers(4No.)

Hydraulic Bottle Jack(2No.)

Digimatic Vernier

Mitutoyo Vernier Caliper

Cordless Drill (2 No.)

Lithium Battery (2 No.)

Jigsaw

Green Laser Finder

Circular Saw

Crimping Tool (2 No.)

**7.5 RESEARCH LABORATORY**

a)3D Printer with Simply 3D licensed software **(2No.)**

b) Computerized Pin on Disk Wear Testing with Data acquisition system

c)Computerized Micro Vickers Hardnesses facility

d)Barcol Hardness Tester

**7.5 CENTRE OF EXCELLENCE**

a) Cut Section model of four-cylinder Engine with gear box and transmission (INNOVA)

b) Cut section model of four-cylinder four stroke diesel engine (VOLVO)

c)Twin power turbo In-line 4-cylinder diesel engine (BMW)

d) Four-cylinder diesel Engine assembly (INNOVA)

e) Cut Section model of Chassis Assembly (TOYOTA FORTUNER)

f) Diesel engine gear box assembly (INNOVA)

# PART E: First Year faculty and financial Resources

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

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

Table No. E1.1: FYSFR details.

| Year | Sanctioned intake of all UG programs (S4) | No. of required faculty (RF4= S4/20) | No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1) | No. of faculty members in Engineering Science Courses (NS2) | Percentage= No. of faculty members ((NS1*0.8) + (NS2*0.2))/(No. of required faculty (RF4)); Percentage= ((NS1*0.8) +(NS2*0.2))/RF |
|---|---|---|---|---|---|
| 2022-23(CAYm2) | 840 | 42 | 33 | 21 | 73 |
| 2023-24(CAYm1) | 1080 | 54 | 34 | 21 | 58 |
| 2024-25(CAY) | 1680 | 84 | 47 | 22 | 50 |

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

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

| Items | Budgeted in 2024-2025 | Actual Expenses in 2024-2025 till | Budgeted in 2023-2024 | Actual Expenses in 2023-2024 till | Budgeted in 2022-2023 | Actual Expenses in 2022-2023 till | Budgeted in 2021-2022 | Actual Expenses in 2021-2022 till |
|---|---|---|---|---|---|---|---|---|
| Infrastructure Built-Up | 310414000 | 195950622 | 63027000 | 245603557 | 92012000 | 146850938 | 90406990 | 75119573 |
| Library | 4820000 | 3009564 | 4540000 | 1652480 | 4532000 | 3213379 | 3105672 | 2081176 |
| Laboratory equipment | 98085000 | 100195987 | 56297723 | 48425365 | 47218800 | 37131454 | 37047150 | 35449946 |
| Teaching and non-teaching staff salary | 540549363 | 504853556 | 468845121 | 420514176 | 406576332 | 387082539 | 316400000 | 327554068 |
| Outreach Programs | 650000 | 822236 | 284000 | 66478 | 261000 | 72933 | 226240 | 158298 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| R&D | 6455000 | 5271061 | 3000000 | 1515297 | 4100000 | 681028 | 1450000 | 569069 |
| Training, Placement and Industry linkage | 9356300 | 5020700 | 4650000 | 3965459 | 6029000 | 4554823 | 1106000 | 1072119 |
| SDGs | 7500000 | 6335430 | 6700000 | 5388445 | 7050000 | 5501432 | 6687000 | 3987905 |
| Entrepreneurship | 4450000 | 2886460 | 3020000 | 3103215 | 4700000 | 1060792 | 1850000 | 32748 |
| Others, specify | 178103253 | 133795856 | 159505947 | 230249609 | 96201342 | 145176583 | 80165841 | 120491420 |
| **Total** | **1160382916** | **958141472** | **769869791** | **960484081** | **668680474** | **731325901** | **538444893** | **566516322** |

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

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

| **Items** | **Budgeted in 2024-2025** | **Actual Expenses in 2024-2025 till** | **Budgeted in 2023-2024** | **Actual Expenses in 2023-2024 till** | **Budgeted in 2022-2023** | **Actual Expenses in 2022-2023 till** | **Budgeted in 2021-2022** | **Actual Expenses in 2021-2022 till** |
|---|---|---|---|---|---|---|---|---|
| Laboratory equipment | 2895000 | 2657550 | 1500000 | 1121120 | 1550000 | 1541162 | 1416000 | 1294725 |
| Software | 0 | 0 | 150000 | 163000 | 650000 | 649000 | 0 | 0 |
| SDGs | 1200000 | 1084978 | 1000000 | 1079900 | 400000 | 457500 | 200000 | 183977 |
| Support for faculty development | 100000 | 3000 | 100000 | 35166 | 100000 | 46101 | 50000 | 20873 |
| R & D | 400000 | 386921 | 200000 | 109160 | 200000 | 50800 | 200000 | 132753 |
| Industrial Training, Industry expert, Internship | 547000 | 678500 | 147000 | 119461 | 144000 | 125889 | 127000 | 72500 |
| Miscellaneous Expenses* | 100000 | 25000 | 100000 | 100000 | 100000 | 125000 | 100000 | 25000 |
| **Total** | **5242000** | **4835949** | **3197000** | **2727807** | **3144000** | **2995452** | **2093000** | **1729828** |