

Date:18/01/2025.

COVER LETTER

To
The Dean Academics
R. I. T. Rajaramnagar.

Subject: Request for Approval to Address Curriculum Repetition Issues

Respected Sir,

The Department of Mechanical Engineering is submitting documents for your kind consideration regarding the following two academic issues:

1. Repetition of Applied Thermodynamics and Applied Thermodynamics Lab

This issue pertains to students admitted in the academic years 2020–21 and 2021–22 who are now following the 2022–26 curriculum cycle. These courses are being repeated due to differences in the curriculum structure.

2. Repetition of Design of Machine Elements Course

This concerns a student who completed the first semester of the third year during the 2023–24 academic year and is now continuing the second semester in 2024–25. The course, Design of Machine Elements, is being repeated.

We kindly request your approval to implement the necessary changes in the curriculum for these cases to ensure smooth academic progression for the affected students while maintaining the curriculum's structural integrity.

Thanking You.

Regards,


Dr. S. B. Kumbhar,
HoD-Mechanical Engineering.



Approved


Enclosure:

1. Revised structure with equivalent subjects for repeated Applied Thermodynamics and Applied Thermodynamics Lab courses.
2. Syllabus of Applied Thermodynamics and Applied Thermodynamics Lab
3. Application for equivalent subject replacement for Design of Machine Elements. And syllabus of Equivalent course entitled Machine Design.

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Curriculum Structure and Evaluation Scheme

To be implemented for 2022-26 Batch

Department of Mechanical Engineering

Rev: ME Course Structure/RIT/01/2022-26

Class: T. Y. B. Tech

Semester: VI

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (Marks %)		Practical (Marks %)		
							Max	Min. for passing	Max	Min. for passing	
ME3104	Finite Element Method	2	-	-	2	ISE	20	40	40	---	---
						UT1	15				
						UT2	15				
						ESE	50				
ME3184	Heating Ventilation and Air Conditioning (HVAC)	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50			---	---
ME3144	Design of Machine Elements	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50			---	---
ME316	Research Methodology	2	-	-	2	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50			---	---
-	Program Elective-II	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50			---	---
-	Open Elective-II	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50			---	---
-	Multidisciplinary Minor-V	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50			---	---
SH3064	Scholastic Aptitude-II	2	-	-	2	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50			---	---
ME3644	Software Training Lab-II	-	-	2	1	ISE	--	--	--	100	50
ME3684	Heating Ventilation and Air Conditioning (HVAC) Lab	-	-	2	1	ISE	---	---	---	100	50
ME3744	Technical Aptitude-IV	-	-	2	1	ESE	---	---	---	100	50
ME3764	Capstone project Phase I	-	-	2	1	ISE	---	---	---	100	50
-	TOTAL	21	-	8	25	-					
	TOTAL CONTACT HOURS	29									

ISE - In Semester Evaluation, UT1 - Unit Test I, UT2 - Unit Test II, ESE - End Semester Exam.

Total Contact Hours/week : 29

Total Credits : 25

Technical Aptitude Courses: Applied Thermal Engineering, Design of Machine Elements

NOTE: This curriculum is applicable only to students admitted in the academic years 2020-21 or 2021-22, who are admitted to the third year in 2024-25 after a gap in 2023-24.



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Curriculum Structure and Evaluation Scheme

To be implemented for 2022-26 Batch

Department of Mechanical Engineering

Rev: ME Course Structure/RIT/01/2022-26

Program Elective-II

Sr.No.	Course Code	Discipline	Course
1.	ME322	Design	Industrial Robotics
2.	ME3264		Machine Tool Design
3.	ME328		Smart Material and Systems
4.	ME3304		Engineering Acoustics
5.	ME3364	Thermal	Energy Conservation & Management
6.	ME3384		Gas Turbine & Jet Propulsion
7.	ME340		Computational Fluid Dynamics (CFD)
8.	ME3424		Alternative Fuels
9.	ME3484	Manufacturing	Computer Integrated Manufacturing
10.	ME3504		Total Productive Maintenance
11.	ME3524		Tool Engineering
12.	ME3544		Industrial Organization and Management
13.	ME364		Supply Chain Management
14.	ME368		Robot Dynamics and Applications

Open Elective-II

Sr. No.	Course Code	Course Name	Offered By Department
1	OE3401	Cyber security	Computer Science & Information Technology
2	OE360	Distributed Systems	Computer Science & Information Technology
3	OE342	Data Mining	Computer Science & Engineering (Artificial Intelligence and Machine Learning)
4	OE3024	Reliability Engineering	Automobile Engineering
5	OE344	Supply Chain Analytics	Mechatronics Engineering
6	OE346	Mobile Robotics	Mechatronics Engineering
7	OE348	Information Technology Foundation Program	Computer Science & Engineering
8	OE3381	Disaster Management	Civil Engineering
9	OE3084	Materials Management	Civil Engineering
10	OE358	Plumbing (Water and Sanitation)	Civil Engineering
11	OE3182	Industrial Drives	Electrical Engineering





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Curriculum Structure and Evaluation Scheme

To be implemented for 2022-26 Batch

Department of Mechanical Engineering

Rev: ME Course Structure/RIT/01/2022-26

12	OE352	Image Processing	Electronics & Telecommunication Engineering
13	OE354	Fuzzy logic and Neural Network	Electronics & Telecommunication Engineering
14	OE356	Project Management	Mechanical Engineering
15	OE3284	Supply Chain Management	Mechanical Engineering
16	OE3324	Entrepreneurship Development	Mechanical Engineering





Class: Third Year B. Tech	Semester-VI
Course Code: ME 3184	Course Name: Heating Ventilation and Air Conditioning

L	T	P	Credits
3	--	--	3

Course Description:

This course covers essential concepts in refrigeration, air conditioning, heating systems. Students will learn about refrigeration cycles, key components (compressors, condensers, evaporators), and refrigerants, including safety, motors, and control systems. The course also delves into air conditioning systems, focusing on psychrometric properties, processes, and calculations. Heating systems, combustion principles, and troubleshooting techniques for gas and oil-fired systems will be explored. Practical applications and numerical treatments will be incorporated throughout the course.

Course Learning Outcomes:

After successful completion of the course, students will be able to,

1. Select the air refrigeration system under the circumstances.
2. Explain the working single and multistage vapour compression cycle, and vapour absorption cycle.
3. Choose the appropriate the refrigerant for a given application
4. Evaluate psychrometric properties and processes involved in air conditioning.
5. Design the human comfort conditions.

Prerequisite:

Thermodynamics, fluid mechanics, and heat transfer.

Course Content		
Unit No	Description	Hrs.
1.	Air Refrigeration cycles and systems Introduction, Difference between a Heat Engine, Refrigerator and Heat Pump, Air refrigerator working on Reversed Carnot Cycle, Simple Air-Cooling System, Simple Air Evaporative Cooling system, Boot strap air cooling system, Boot strap air evaporative cooling system.	06
2.	Refrigeration systems and components Types of refrigeration systems, Vapor Compression Refrigeration system, Types of VCC cycles, multistage VCC.	06
3.	Refrigerants: Introduction, Desirable properties of ideal Refrigerant, Classification of refrigerants, Designation system of refrigerants, Comparison of refrigerants, Thermodynamic Properties of refrigerants, Chemical and Physical properties of refrigerants.	06
4.	Vapour Absorption refrigeration system	06





	Introduction to VARS, Simple vapour absorption refrigeration system, Practical vapour absorption refrigeration system, Thermodynamic requirements of Refrigerant-Absorbent mixture, Properties of ideal refrigerant-absorber combination, Advantages of vapour absorption refrigeration system over vapour compression refrigeration system, Domestic Electrolux refrigerator.	
5.	Psychrometry Introduction to Psychrometry, Psychrometric terms, Psychrometric Relations, Enthalpy of moist air, Thermodynamic wet bulb temperature, Psychrometric chart, Psychrometric processes, SHF.	06
6.	Comfort Conditions Introduction, Thermal exchanges of body with Environment, Physiological Hazards resulting from heat, Factors affecting human comfort, Effective temperature, Heat production and regulation in human body, Heat and moisture losses from human body, Moisture content of air.	06

References:**Text Books:**

- R. S. Khurmi, J. K. Gupta, Refrigeration and Air Conditioning, S. Chand Publications.
- Carter Stanfield, David Skaves, Fundamentals of HVACR, Pearson, AHRI, Second Edition, 2013.
- Domkundwar, Arora, Domkundwar, Refrigeration and Air Conditioning, Dhanpat Rai.
- Manohar Prasad, Refrigeration and Air Conditioning, New Age International Publications.
- P. N. Ananthanarayanan, Basic Refrigeration and Air Conditioning, McGraw Hill.
- Shengwei Wang, Intelligent Buildings and Building Automation, Spon Press.

Reference Books:

- C. P. Arora, Refrigeration and Air Conditioning, McGraw Hill.
- Roy J. Dossat, Principles of Refrigeration, Prentice Hall.
- Wilbert F. Stoecker, Jerold W. Jones, Refrigeration and Air Conditioning, McGraw Hill.
- Edward G. Pita, Air Conditioning Principles and Systems, Prentice Hall India.





Class: Third Year B. Tech	Semester- VI
Course Code: ME 3684	Course Name: Heating Ventilation and Air Conditioning Lab

L	T	P	Credits
--	--	2	1

Course Description:

The HVAC Lab course provides students with hands-on experience in analyzing and evaluating various heating, ventilation, air conditioning, and refrigeration (HVACR) systems. Through a series of experiments, students will explore the performance of refrigeration systems, heat pumps, air conditioning setups, and humidification systems, using data acquisition systems and psychrometric tools. The course covers essential topics such as cooling load calculations, psychrometric analysis, and the evaluation of advanced HVAC technologies like Variable Refrigerant Flow (VRF) systems and desiccant dehumidifiers. Students will also study the impact of these systems on indoor air quality (IAQ) and energy efficiency in real-world industrial settings. This course equips students with practical knowledge to design, analyze, and optimize HVAC systems for diverse applications.

Course Learning Outcomes:

After successful completion of the course, students will be able to,

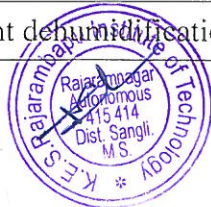
1. Analyze the Performance of HVAC Systems
2. Apply Psychrometric and Load Calculation Principles
3. Evaluate the Impact of Advanced HVAC Technologies on Indoor Air Quality (IAQ)

Prerequisite:

Thermodynamics, Fluid Mechanics and Heat Transfer.

Course Content

Unit No	Description	Hrs.
1.	Performance Analysis of Refrigeration Systems.	02
2.	Performance Analysis of Heat Pump.	02
3.	Psychrometric Analysis of Psychrometric Test rig.	02
4.	Calculation of Cooling Load in a Room.	02
5.	Performance Analysis of Air Conditioning Setup with Computerized data acquisition system.	02
6.	Demonstration on Variable Refrigerant Flow (VRF) air conditioning System.	02
7.	Performance analysis of isothermal humidification system.	02
8.	Performance analysis of adiabatic humidification system.	02
9.	Performance analysis of solid desiccant dehumidification system.	02
10.	Study the IAQ of desiccant dehumidification system.	02





11.	Industrial Visit to a dairy plant/ice plant/cold storage.	02
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References:

Text Books:

- R. S. Khurmi J. K. Gupta, Refrigeration and Air Conditioning, S. Chand Publications.
- Domkundwar and Arora, Refrigeration and Air Conditioning, Dhanpat Rai.
- Manohar Prasad, Refrigeration and Air Conditioning, New Age International Publications.
- P. N. Ananthanarayanan, Basic Refrigeration and Air Conditioning, McGraw Hill.
- RIT, RAC Lab Manual, RIT.

Reference Books:

- C. P. Arora, Refrigeration and Air Conditioning, McGraw Hill.
- Roy J. Dossat, Principles of Refrigeration, Prentice Hall.
- Wilbert F. Stoecker Jerold W. Jones, Refrigeration and Air Conditioning, McGraw Hill.
- Edward G. Pita, Air Conditioning Principles and Systems, Prentice Hall India.



Date:18/01/2025.

To
The Dean Academics
R. I. T. Rajaramnagar.

Subject: Repetition of Design of Machine Elements Course Due to Curriculum Cycle Change.

Respected Sir,

Patil Pradyumna Prashant (Roll No. 2006025) was admitted to the UG Mechanical Engineering program in the academic year 2020–21. He is currently in his third year of study and is now following the 2022–26 curriculum cycle. He completed the first semester of his third year during the 2023–24 academic year. However, due to medical reasons, he could not complete the second semester at that time. He has now resumed his second semester in the 2024–25 academic year. It has been noted that the Design of Machine Elements (ME3144) course is being repeated for him. This occurred because, in the 2020-24 and 2021-25 curriculum cycles, this course was part of the first semester. However, in the 2022–26 cycle, the course is included in the second semester, which he is now following.

It has been decided during the Internal Board of Studies (BoS) meeting of the Mechanical Engineering Department to replace the repeated Design of Machine Elements course with an equivalent course. After careful consideration, it has been decided to allot him the Machine Design (ME3023) course as a replacement. This course is part of the 2021-25 curriculum, which he had initially followed during his admission but is not available in the current 2022-26 curriculum.

We kindly request your approval for this replacement to ensure the student's academic progression is maintained without any redundancy.

Thanking You.

Regards,



Dr. S. B. Kumbhar,
HoD-Mechanical Engineering.

Approved






K.E. Society's
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Syllabus

To be implemented from 2022-23

Department of Mechanical Engineering

Sem-VI

Class:- T.Y. B. Tech	Semester-VI	L	T	P	Credits
Course Code : ME3023	Course Name: Machine Design	3	-	--	3

Course Description:

This course is in continuation with the earlier subject Design of Machine Elements. The course aims to provide fundamental knowledge for Design of different transmission systems like gears & Bearing, Design against fluctuating load and Design for Manufacturing and Assembly and Transmission system in Hybrid Electric Vehicle.

Course Learning Outcomes:

After successful completion of the course, students will be able to,

1. Apply the principle of Spur & Helical gear design for industrial application
2. Design Bevel & Worm gear considering design parameters as per design standards.
3. Apply principles of interaction of materials processing and design.
4. Select & design Rolling and Sliding Contact Bearings from manufacturer's catalogue for a typical application considering suitable design parameters.
5. Elaborate various modes of operation, degree of hybridization and allied terms associated with hybrid electric vehicles.

Prerequisite:

Knowledge of courses like Strength of Material, Design of Machine Components

Course Content

Unit No	Description	Hrs
1.	Design of Gears Drive-I : Classification of gears, desirable properties and selection of gear materials, standard gear tooth systems. Modes of gear tooth failures, methods of lubrication, • Spur gear: Number of teeth and face width, construction details of gear wheel, force analysis, Beam strength (Lewis) equation, velocity factor, service factor load correction factor, effective load on gear. Wear strength (Buckingham's) equation, estimation of module based on beam and wear strength. Estimation of dynamic tooth load by velocity factor and Buckingham's equation. AGMA (American Gear Manufacturing Association) approach of Gear design (Only mathematical relations) • Helical Gear:	06





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Syllabus

To be implemented from 2022-23

Department of Mechanical Engineering

	Types, Terminology. Formative number of teeth in helical gears, force analysis, Beam & wear strength of helical gears, Effective load & design of helical gear,	
2.	Design of Gears Drive-II: • Bevel gear: Terminology, materials for bevel gear, Formative number of teeth, force analysis, Beam & wear strength, Effective load on straight bevel gear. Safety of bevel gear, mounting of bevel gear • Worm Gear: Terminology, Designation of worm gears, force analysis, Types of failures in worm gear, Beam & wear strength of worm gear tooth, (Bending stress factor, speed factor, surface stress factor, zone factor) IS 1443-1974, Thermal consideration in worm gear drive.	06
3.	Design for Manufacture and Assembly: Concurrent engineering, Designing for manufacture (DFM), Design for casting, Design for forging, Design for machining, Design for Welding, Design for Assembly	06
4.	Rolling Contact Bearings: Types of rolling contact bearings, Designation, static and dynamic load carrying capacities, Stribeck's equation, Equivalent bearing load, load life relationship, selection of bearing life, Selection of rolling contact bearings from manufacturers catalogue, design for cyclic loads and speed, bearing with probability of survival other than 90%, lubrication and mounting of bearings, Preloading of rolling contact bearings, Types of failure in rolling contact bearing-causes and remedies.	06
5.	Sliding Contact Bearings: Basic modes of Lubrication, physical and chemical properties of lubricant, Desirable properties of lubricant. Classification of lubricant. Bearing material and their properties: Sintered bearing materials, bearing types and their construction details. Hydro-dynamic bearing: Basic theory, thick and thin film lubrication, Reynolds's equation, Sommerfield Number. Design consideration in hydrodynamic bearings, Raimondi and Boyd method relating, bearing variables. Heat balance in journal bearings, Temperature rise, Introduction to hydro-static bearings.	06

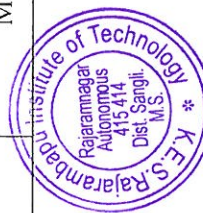


List of students for whom courses are replaced.

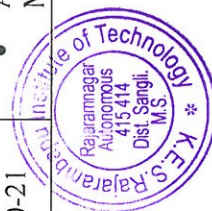
SN	Roll Number	Full Name	Admission Year	Repeated Course (Removed)	Equivalent course (Replaced)
1.	2106009	Desai Shravani Ajinkya	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684
2.	2256015	Pawar Soham Vasant	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684
3.	2106094	Chavan omkar pradip	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684
4.	2256030	Patil Prathmesh Pramod	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684
5.	2106077	Dombé Sandesh Sanjay	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684
6.	2006070	Hadge Shreedhar Santosh	2020-21	Applied thermal Engineering-ME3124	Heating Ventilation and Conditioning -ME3184



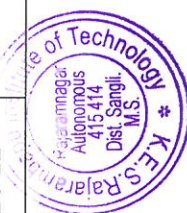
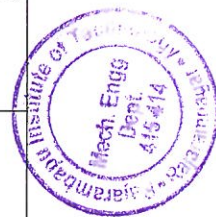
				Applied thermal Engineering Lab-ME3664	Heating Ventilation and Air Conditioning Lab-ME3684	Air
7.	2106090	Mohite Rohit Sanjay	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Air Conditioning -ME3184 - Heating Ventilation and Air Conditioning Lab-ME3684	Air
8.	2006082	Patil Pratik Balkrishna	2020-21	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Air Conditioning -ME3184 - Heating Ventilation and Air Conditioning Lab-ME3684	Air
9.	2106027	Jadhav Om Hanmant	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Air Conditioning -ME3184 - Heating Ventilation and Air Conditioning Lab-ME3684	Air
10.	2106093	Shinde yashraj Sanjay	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Air Conditioning -ME3184 - Heating Ventilation and Air Conditioning Lab-ME3684	Air
11.	2106005	Patil Sudesh Uttam	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Air Conditioning -ME3184 - Heating Ventilation and Air Conditioning Lab-ME3684	Air
12.	2156035	Khatal Rutuja Sampatrao	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Air Conditioning -ME3184 - Heating Ventilation and Air Conditioning Lab-ME3684	Air



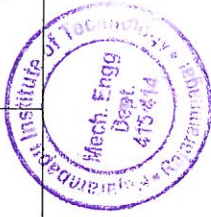
13.	2006105	Ingale sonali vishwas	2020-21	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
14.	2106120	Maske Pavan Tanaji	2021-22	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
15.	2106056	More Anurag Vijay	2021-22	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
16.	2106001	Jagdale Shivprasad Atmaram	2021-22	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
17.	2106011	Koli shrivardhan Sunil	2021-22	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
18.	2006001	Prajyot Ramesh Desai	2020-21	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
19.	2006097	Veer Lowkik Deepak	2020-21	Applied thermal Engineering- ME3124	Heating Ventilation and Conditioning -ME3184	Air



				Applied thermal Engineering Lab-ME3664	Heating Ventilation and Conditioning Lab-ME3684	Air
20.	2106002	Chavan Ajinkya Ashok	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
21.	2106099	Godase Shreyas Shankar	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
22.	2106034	Mulla Aman Bashir	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
23.	2006025	** Patil Pradyumna Prashant	2020-21	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664 - Design of Machine Elements-ME3144	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684 - Machine Design ME3023	Air
24.	2106029	Suryawanshi shreyash Sambhaji	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
25.	2106049	Patil Shubham Sudarshan	2021-22	Applied thermal Engineering-ME3124	Heating Ventilation and Conditioning ME3184	Air



				Applied thermal Engineering Lab-ME3664	Heating Ventilation and Conditioning Lab-ME3684	Air
26.	2106110	Taware pranav rajendra	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
27.	2106058	Patil Shantanu Satish	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
28.	2006034	Jadhav Sagar Sanjay	2020-21	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
29.	2106047	More Avantika Dipak	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
30.	2106035	Bunde Sakshi Dilip	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
31.	2106122	Deshmukh Siddharaj Ajitsingh	2021-22	- Applied thermal Engineering-ME3124 - Applied thermal Engineering Lab-ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air



32.	2106021	Suryavanshi Sanika Sunil	2021-22	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
33.	2106041	Mulani Shoeb Abdulrashid	2021-22	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air
34.	2106123	Patil Virendra Ashok	2021-22	- Applied thermal Engineering- ME3124 - Applied thermal Engineering Lab- ME3664	- Heating Ventilation and Conditioning -ME3184 - Heating Ventilation and Conditioning Lab-ME3684	Air



[Signature]
HEAD

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(Rajaramnagar (Sangli) 415 414)