Vidyavardhini's College Of Engineering & Technology, Vasai Road

(Approved by AICTE, DTE Maharashtra and Affiliated to University of Mumbai)

NBA & NAAC Accredited

Mechanical Engineering

Home»Mechanical Engineering

Dr. Uday AswalekarHead Of DepartmentEstablished in 1994, the Department of Mechanical Engineering is amongst the premier Departments of VCET. Currently, it is running Under Graduate program, B.E in Mechanical Engineering with an intake of 60 seats. The Department is accredited by National Board of Accreditation (NBA) from 2012- 2015, reaccredited fromJuly 2022 to June 2025and is permanently affiliated to University of Mumbai. The Department has highly qualified and experienced faculty members. The Department features the state-of-the-art infrastructure including well developed laboratories, and is armed with the recent software?s. The Department imparts the skills and expertise in the areas of Design, Thermal sciences, Manufacturing and Renewable energy that are the backbone of Industries. The Department continuously strives to develop the technical as well as professional skills of students by exposing them to industry environment through Industrial Visits, Expert Lectures, Seminars Hands on Training, and Internship. The Department is associated with SAE, ISHRAE, VMEA student chapters. The Department encourages students to understand

real life challenges through activities like Formula Car, Quad bike, Solar Car, Electric bike manufacturing and Aero- designing. These provide a platform for students to develop their technical, managerial, organizational, and Communication skills by organizing workshops and by participating in various National and International competitions. The Department also offers consultancy in the field of Material testing, Energy Audit, ISO certification to the Industries.

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Energy Audit, ISO certification to the Industries.

VisionTo be a pre-eminent department for transformation of students in mechanical engineering into technically and ethically sound professionals. MissionTo impart quality education through practical oriented initiatives. To prepare industry ready professionals with ethical and moral values. To promote entrepreneurship by creating various opportunities.

Vision

Mission

The composition of the PAQIC for the Department of Mechanical Engineering is as follows:Members:1. Dr. Uday Aswalekar, HOD, Mechanical Engineering, (Chairman)2. Dr. Ashish Choudhary member MED3. Mr. Raahul Krishna member MED4. Dr. Vikas Gupta, HOD EXTC engineering5. Dr. Ashish Vanmali, Associate Professor, Information Technology.6. Mr. Vlnay Patel, MED (Coordinator)Frequency Meeting:Minimum 2 academic Of per vearRoles and responsibilities: The roles and responsibilities of the PAQIC are as follows: Devise Standard Operating Procedure for assessment and evaluation of Outcome Based Education (OBE) for the program. Confirming the linkage of PO, PSO and CO with of institute and department vision, mission .Periodic review of assessment data & identification of gaps/shortfalls in programRecommend plan of action to bridge the gap and monitor its implementationReview of quality/relevance of assessment processes and tools for attainment of COs, POs and PSOsPreparing the compliance report as per requirement of accreditation activitiesPeriodic revision of Program Educational Objectives (PEOs), PSO etc. The PAQIC Coordinator will hold the responsibility of scheduling of meeting, recording of

Minutes and compiling the action taken report

The composition of the PAQIC for the Department of Mechanical Engineering is as follows:

Members:

Frequency Of Meeting:

Roles and responsibilities:

Program Outcomes (POs):1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess

societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the

professional engineering practice.7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one?s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.Program Educational Objectives (PEOs):1. To facilitate students with modern tools and techniques and make them compatible to solve real Life problems.2. To impart students with good scientific and technical knowledge to enable them to analyse, design, and create peculiar products to fulfill societal needs.3. To infuse ethical and moral values effective leadership skills, and entrepreneurship skills to make students professionally competent.4. To encourage the students, to interact with industry, professional bodies by participating in co-curricular activities. Program Specific Outcomes (PSOs):1. Graduates will exhibit the ability to analyze and solve problems in Design, Thermal, Manufacturing and Renewable energy domains.2. Graduates will incorporate technical and professional skills in their career.

Program Outcomes (POs):

Program Educational Objectives (PEOs):

Program Specific Outcomes (PSOs):

Departmental Advisory Board (DAB)The Departmental Advisory Board (DAB) has been formed with the purpose of remaining up to date with the latest requirements of the industry, academics and incorporating necessary components in the curricular and extracurricular activities. The DAB is composed of representative members from eminent institutions, industry, alumni, parents, students and faculty of the department. Following are the members of the committee for three consecutive academic year starting from 2020-21. SR.NO. NAME OF THE

VankudrePrincipalVCET, VasaiChairman2Dr. Vikas GuptaDean

MEMBERDESIGNATIONORGANIZATIONROLE IN DAB1Dr. Harish

(Academic) VCET, Vasai Dean 3Dr. Uday

AswalekarHOD, MechVCET, VasaiHOD4Dr. B. E.

NarkhedeAsso.

ProfessorNITIE,

BeloseSenior AdvisorDell

MumbaiAcademic Expert5Mr. Noorul					
HaqueDirectorSynergy					
Water Slide					
PVT Ltd. Vasai					
(E)Industry Expert6Mr.Yash ShahCEOApollo Heat					
Exchanger					
PVT LTDIndustry Expert7Mr. Avadhoot					

Technology
Texas USAAlumni
Representative8Dr. R. S. MauryaAsso. ProfessorSardar Patel
College
of
Engg and
Tech
AndheriParent

Representative9Student RepresentativeStudentVCET, VasaiStudent

Representative10Dr. Ashish ChoudhariAsso. ProfessorVCET, VasaiSr. Faculty11Mr. D. J. ChoudhariAsst. ProfessorVCET, VasaiConvener

Departmental Advisory Board (DAB)

2022-232021-222020 -20212019-202018-19

Mumbai University Minor Research GrantAICTE-SPICESAICTE-MODROB

Innovative in Teaching learning

Journal Publication

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Professor & Head Of Department

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Associate Professor, Dean R&D

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Asst. Prof. (Ph.D pursuing)
Mr. Swapnil Mane
Asst. Prof. (Ph.D pursuing)
Mr. Sanjay Lohar
Asst. Prof. (Ph.D pursuing)
Mr. Vishwas Palve
Asst. Prof. (Ph.D pursuing)
Mr. Tusharkumar Raut
Asst. Prof.
Ms. Priti Vairagi

Asst. Prof.
Mr. Kamlesh Bachkar
Asst. Prof.
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Ms. Mrunal kshirsagar

Asst. Prof.

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Student Achievements

Slide 1BASIC WORKSHOPLab in-chargeMr.Dipak Chaudhari.HardwareHardware. Carpentry.

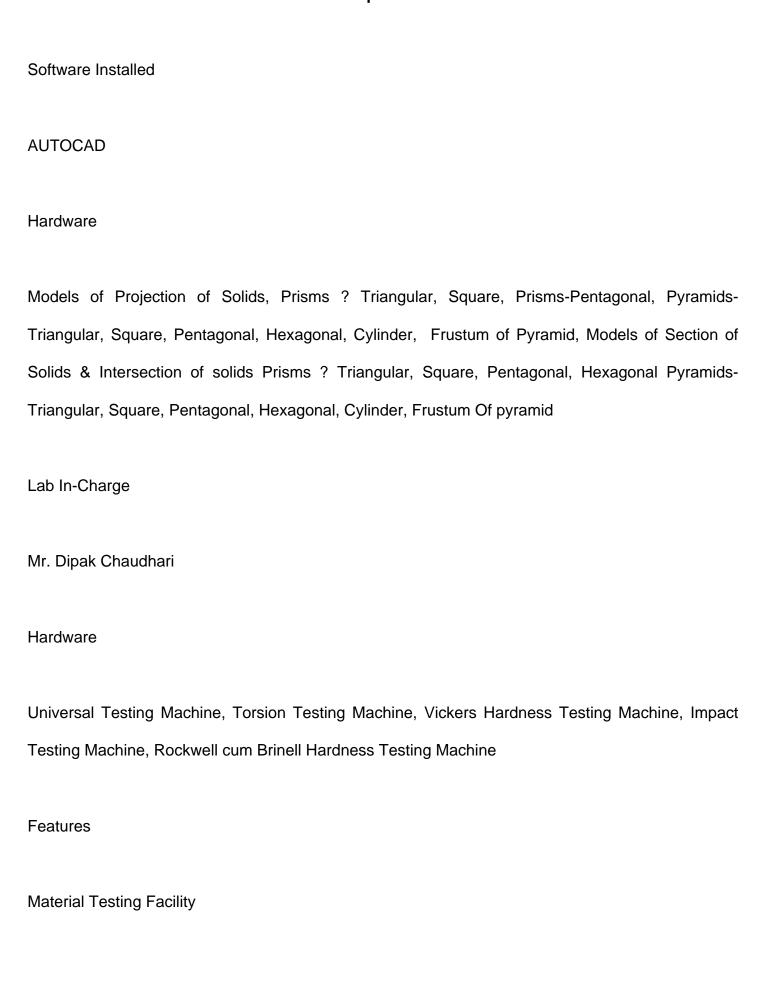
Fitting. Plumbing. Welding. Smithy.Slide 1MACHINE SHOPLab In-ChargeMr.Dipak Chaudhari.HardwareCarpentry Lathe Machine. Universal Milling Machine Shaping Machine Radial drilling Machine.Slide 1ENGINEERING DRAWINGLab In-ChargeMr. Swapnil ManeSoftware InstalledAUTOCADHardwareModels of Projection of Solids, Prisms ? Triangular, Square, Prisms-Pentagonal, Pyramids- Triangular, Square, Pentagonal, Hexagonal, Cylinder, Frustum of Pyramid, Models of Section of Solids & Intersection of solids Prisms ? Triangular, Square, Pentagonal, Hexagonal, Cylinder, Frustum of Pentagonal, Hexagonal Pyramids- Triangular, Square, Pentagonal, Hexagonal, Cylinder, Frustum

Of pyramidSlide 1STRENGTH OF MATERIALLab In-ChargeMr. Dipak ChaudhariHardwareUniversal Testing Machine, Torsion Testing Machine, Vickers Hardness Testing Machine, Impact Testing Machine, Rockwell cum Brinell Hardness Testing MachineFeaturesMaterial Testing FacilitySlide 1FLUID MECHANICSLab In-ChargeDr. Ashish ChaudhariHardwarempact of jet on vanes, Buoyance & Metacentric height apparatus Bernoulli?s theorem apparatus Close circuit calibration rig for measuring discharge through venturi meter and orifice meter Close circuit apparatus for determination of co efficient of discharge of orifice and mouthpiece Flow through nozzles Calibration of rotameter Pipe friction apparatus Pipes in series and parallel Vortex flow Reynolds Apparatus.Slide 1COMPUTER apparatus CENTERLab In-ChargeMr. VishwasPalveSoftware InstalledSolidworks 23, AutoCad-24, Ansys 15HardwareComputers-51. A3 Printer& Scanner -01 A4 Printer-03FeaturesModelling & Simulation. DraftingSlide 1HEAT TRANFERLab In-ChargeMr. Vinay PatelHardwareThermal conductivity of metal rod Heat transfer by natural convection apparatus Thermal conductivity of liquids Thermal conductivity of insulating powder apparatus Thermal conductivity of two slab guarded hot plate apparatus Heat transfer by forced convection apparatus Heat transfer in pin fin apparatus Heat transfer through lagged pipe apparatus Stefan- Boltzmann apparatus Emissivity measurement apparatus Parallel flow Counter flow **COMBUSTION** apparatusSlide 1INTERNAL **ENGINESLab** In-ChargeMr.Sanjay LoharHardwareTwin cylinder 4-stroke vertical Diesel Engine Four-cylinder four-stroke vertical petrol engine Sectional working Model of 2 Stroke Petrol engine Sectional working Model of 4 Stroke Petrol engine Sectional working Model of 2 Stroke Diesel engine Sectional working Model of 4 Stroke Diesel engineSlide 1MECHANICAL MEASUREMENTS AND CONTROLLab In-ChargeMr. Vinay D. PatelHardwareOptical flats, Gear tooth Vernier Gear tooth comparator, Sine bar, Snap gauge and stand, Sleeve mt-3&4,Slide 1METROLOGY AND QUALITY ENGINEERINGLab In-ChargeMr. Mukund KavekarHardwareComparators ElectronicsComparators Screw thread

Profile Tooth micrometre Use of Projector Gear Measurement MicrometreSlide 1KINAMATICS/DYNAMICS OF MACHINERYLab In-ChargeDr.Uday AswalekerHardwareBar Link Watt Mechanism Pantograph Mechanism Model of Belt Pulley Shafting General Bearing Ball Bearing, Claw Clutch Kinematics Pair (All Types) Cam & Followers Gear Models Joint & Coupling Motorized Gyroscope Whirling of shaft Apparatus Static & Dynamic Balancing Machine Cam Analysis Machine Universal Governor AppSlide 1AUTOMOBILE ENGINEERINGLab In-ChargeMr. Mukund KavekarHardwareMechanical Comparators Constant Mesh Gear Box Sliding Mesh Gear Epicyclic industrial gear box Pneumatic Braking system Disc Braking system Worm & Box Recirculating Ball steering gearSlide 1REFRIGERATION AND AIR CONDITIONINGLab In-ChargeMr. Rishabh MelwankiHardwareExperimental refrigeration Trainer Kit, Air conditioning Trainer Kit, Cooling Tower, Domestic refrigerator test setup, Water cooler test setup, Window AC setup.Slide 1MECHATRONICS LABLab In-ChargeMr.Parag Sarode.HardwareElectro test Pneumatic Trainer Package &Robo Software X- Y position Table Sensor Technology kit LMS H SimulatorSlide 1THERMAL AND FLUID POWERLab Controller Package P Simulator In-ChargeMr. Vinay D. PatelHardwareModel of Babcock & Wilcox Boiler Model of Cochran Boiler Model of Benson Boiler Model of Gas Turbine plant Model of Lever Safety ValveModel of Water Gauge Model of Feed Check Valve Model of Fusion Plugs Model of Green Economizer Model of Super HeaterSlide 1MATERIAL TECHNOLOGYLab In-ChargeMr. Vishwas PalveHardwareInverted Metallurgical Microscope with Eyepiece WF-10 X118 and CCTV camera 700TVL, Metallurgical microscopes, Inverted metallurgical microscope, Double disc polishing machineFeaturesMetallurgical Micro-structureSlide 1MECHANICAL UTILITY **SYSTEMLab** In-ChargeMr. V.D. PatelHardwareSingle Stage Reciprocating Air Compressor Test Rig with Constant speed. Two stroke reciprocating air compressor test rig with constant speed. Centrifugal blower rig.FeaturesModelling & Simulation. DraftingSlide **1MAINTENANCE** type test

ENGINEERINGLab In-ChargeMr. Sanjay LoharHardwareMulti-function Rotor Bench, 6 Channel
data acquisition system, Proximityprobe, rpm sensor, Accelerometer, Motor controller, Analysis
software, Sliding Mesh Gear Box, Constant Mesh Gear Box, Epicyclic gear box. Features Sliding
Mesh Gear Box, Constant Mesh Gear Box, Epicyclic gear box.
Lab in-charge
Mr.Dipak Chaudhari.
Hardware
Hardware. Carpentry. Fitting. Plumbing. Welding. Smithy.
Lab In-Charge
Mr.Dipak Chaudhari.
Hardware
Carpentry Lathe Machine. Universal Milling Machine Shaping Machine Radial drilling Machine.
I ah la Chaura
Lab In-Charge

Mr. Swapnil Mane



Lab In-Charge

Dr. Ashish Chaudhari

Hardware

mpact of jet on vanes, Buoyance & Metacentric height apparatus Bernoulli?s theorem apparatus Close circuit calibration rig for measuring discharge through venturi meter and orifice meter Close circuit apparatus for determination of co efficient of discharge of orifice and mouthpiece Flow through nozzles Calibration of rotameter Pipe friction apparatus Pipes in series and parallel Vortex

Lab In-Charge

Mr. VishwasPalve

Software Installed

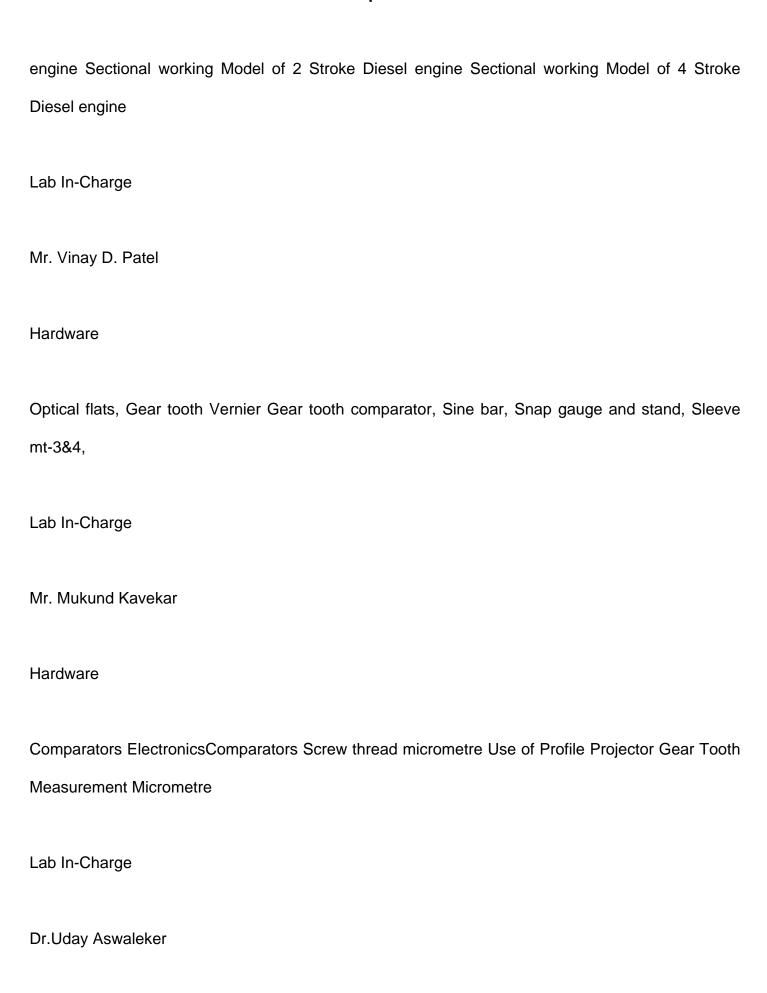
Solidworks 23, AutoCad-24, Ansys 15

flow apparatus Reynolds Apparatus.

Hardware

Computers-51. A3 Printer& Scanner -01 A4 Printer-03

Features Modelling & Simulation. Drafting Lab In-Charge Mr. Vinay Patel Hardware Thermal conductivity of metal rod Heat transfer by natural convection apparatus Thermal conductivity of liquids Thermal conductivity of insulating powder apparatus Thermal conductivity of two slab guarded hot plate apparatus Heat transfer by forced convection apparatus Heat transfer in pin fin apparatus Heat transfer through lagged pipe apparatus Stefan- Boltzmann apparatus Emissivity measurement apparatus Parallel flow Counter flow apparatus Lab In-Charge Mr.Sanjay Lohar Hardware Twin cylinder 4-stroke vertical Diesel Engine Four-cylinder four-stroke vertical petrol engine Sectional working Model of 2 Stroke Petrol engine Sectional working Model of 4 Stroke Petrol



Hardware

Bar Link Watt Mechanism Pantograph Mechanism Model of Belt Pulley Shafting General Bearing Ball Bearing, Claw Clutch Kinematics Pair (All Types) Cam & Followers Gear Models Joint & Coupling Motorized Gyroscope Whirling of shaft Apparatus Static & Dynamic Balancing Machine Cam Analysis Machine Universal Governor App

Lab In-Charge

Mr. Mukund Kavekar

Hardware

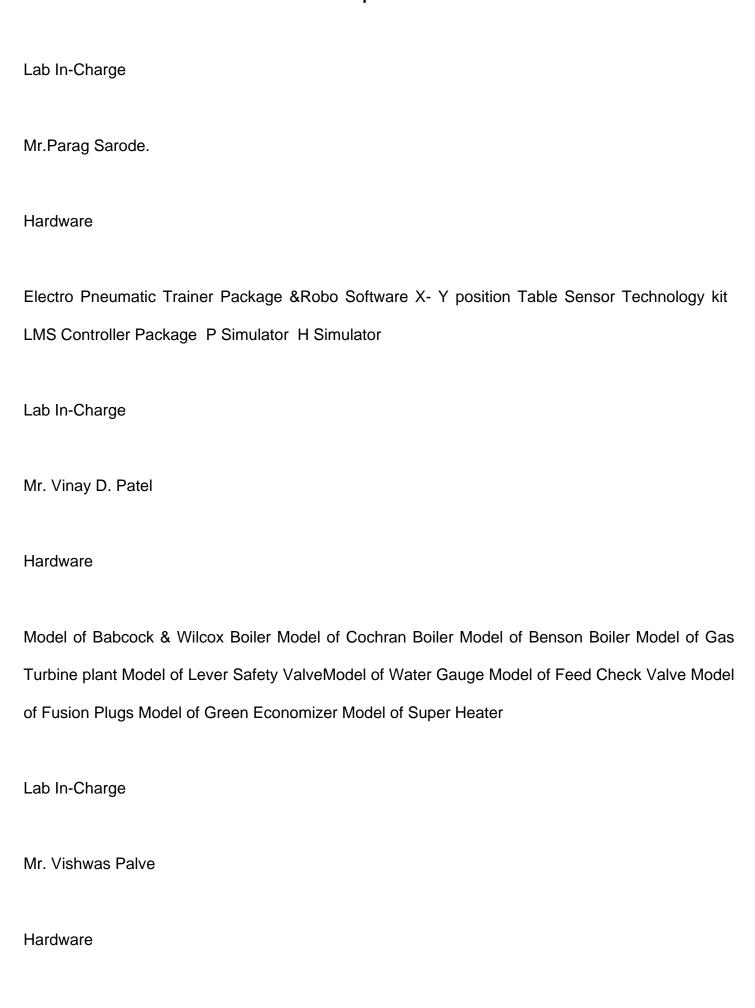
Mechanical Comparators Constant Mesh Gear Box Sliding Mesh Gear Box Epicyclic industrial gear box Pneumatic Braking system Disc Braking system Worm & Recirculating Ball steering gear

Lab In-Charge

Mr. Rishabh Melwanki

Hardware

Experimental refrigeration Trainer Kit, Air conditioning Trainer Kit, Cooling Tower, Domestic refrigerator test setup, Water cooler test setup, Window AC test setup.



Inverted Metallurgical Microscope with Eyepiece WF-10 X118 and CCTV camera 700TVL,
Metallurgical microscopes, Inverted metallurgical microscope, Double disc polishing machine
Features
Metallurgical Micro-structure
Lab In-Charge
Mr. V.D. Patel
Hardware
Single Stage Reciprocating Air Compressor Test Rig with Constant speed. Two stroke reciprocating
air compressor test rig with constant speed. Centrifugal type blower test rig.
Features
Modelling & Simulation. Drafting
Lab In-Charge
Mr. Sanjay Lohar

Hardware

Multi-function Rotor Bench, 6 Channel data acquisition system, Proximityprobe, rpm sensor,

Accelerometer, Motor controller, Analysis software, Sliding Mesh Gear Box, Constant Mesh Gear

Box, Epicyclic gear box.

Features

Sliding Mesh Gear Box, Constant Mesh Gear Box, Epicyclic gear box.

Year: 2022-23SETEBE1. BHATKAR VED MAHESH VANDANA: 91. MISHRA VINAYAK

SURYANATH: 9.041. Tanavade Bhushan Rajesh: 10.02. PATIL NEHA PRAKASH MANISHA:

8.782. Yadav Harsh Ashok: 8.482. Damodar Vidhit Chandrashekhar: 9.853. Churi Yuta Prashant

:7.873. Pal Sachin Girijashankar : 8.303. Kushwah Manisha Ramashankar : 9.70

Year: 2022-23

Syllabus: R-19 SER-19 TER-19 BEPO PSO CO: R16R19

Syllabus:

PO PSO CO:

Menu

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Contact