SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)

EXAMINATION CIRCULAR NO. 05 OF. 2022

BACHELOR OF ENGINEERING (2015 PATTERN)

Examination of SUMMER-2022

(Under Faculty of SCIENCE AND TECHNOLOGY: B)ENGINEERING)

INSTRUCTIONS FOR CANDIDATES

- Candidates are required to be present at the examination centre, THIRTY MINUTES before the stipulated time.

- Candidates are forbidden from taking any material into the examination hall that can be treated as a malpractice.

- Candidates are requested to see the Notice Board at their center of examination regularly for changes if any that may be notified later in the program.

- No request shall be granted for change in time or date for the University Examination on any ground.

- Candidates are requested to note the Day, Date and Time of Paper.

- Candidates are permitted to use stencils at the time of examination.

- The exchanges of side-rules, drawing instruments of othermaterials used in the examination hall is not permitted at the time of examination. Candidates must bring their own instruments and will not be allowed to borrow from each other under any circumstances.

- Use of non-programmable battery operated electronic pocket size Calculator is allowed. The exchange of Calculators is not allowed. Electronics Devices including mobile are not allowed at the time of examination.

- The written examination will be conducted in the following order.

AUTOMOBILE

SEM-II

Day & Date	2015 Course Time-02.00 PM To 04.30 PM
Monday 20/06/2022	Automotive Systems and Testing (416495)
Wednesday 22/06/2022	Automotive System Design (416496)
Friday 24/06/2022	**ELECTIVE-III** Automotive NVH (416497A)
	ELECTIVE-III Hybrid Electric and Fuel cell Vehicle (416497B)
	ELECTIVE-III Automotive Hydraulics and Pneumatics (416497C)
Monday 27/06/2022	**ELECTIVE-IV** Operation Research (416498A)
	ELECTIVE-IV Transport Management and Motor Industries (416498B)
	ELECTIVE-IV Engineering Economics and Financial Management (416498C)

SEM-I

Day & Date	2015 Course Time-02.00 PM To 04.30 PM
Tuesday 21/06/2022	Automotive Refrigeration & Air- Conditioning (416488)
Thursday 23/06/2022	Alternative Fuels & Emission Control (416489)
Saturday 25/06/2022	Machine & Vechile Dynamics (416490)
Tuesday 28/06/2022	**ELECTIVE-I** Fundamentals of Computational Fluid Dynamics (416491A)
	ELECTIVE-I Fundamentals of Finite Element Analysis (416491B)
	ELECTIVE-I CAE & Automation (416491C)
Thursday 30/06/2022	**ELECTIVE-II** Special Purpose Vechile (416492A)
	ELECTIVE-II Vechile Maintenance (416492B)
	ELECTIVE-II Product Design & Development (416492C)

CHEMICAL

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	Process Modeling and Simulation (409349)
Wednesday 22/06/2022	Process Engineering Costing & Plant Design (409350)
Friday 24/06/2022	**ELECTIVE-III** Energy Conservation In Chemical Process Industries (409351A)
	ELECTIVE-III Chemical Process Safety (409351B)
	ELECTIVE-III Food Technology (409351C)
	ELECTIVE-III Advanced Materials (409351D)
Monday 27/06/2022	**ELECTIVE-IV** Catalysis (409352A)
	ELECTIVE-IV Nanotechnology (409352B)
	ELECTIVE-IV Fuel Cell Technology (409352C)
	ELECTIVE-IV Petrochemical Engineering (409352D)

SEM-I

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Tuesday 21/06/2022	Process Dynamics & Control (409341)
Thursday 23/06/2022	Chemical Reaction Engineering - II (409342)
Saturday 25/06/2022	Chemical Engineering Design- II (409343)
Tuesday 28/06/2022	**ELECTIVE-I** Environmental Engineering (409344A)
	ELECTIVE-I Membrane Technology (409344B)
	ELECTIVE-I Corrosion Engineering (409344C)
	ELECTIVE-I Petroleum Refining (409344D)
Thursday 30/06/2022	**ELECTIVE-II** Chemical Process Synthesis (409345A)
	ELECTIVE-II Industrial Management & Enterpreneurship (409345B)
	ELECTIVE-II Piping Design & Engineering (409345C)
	ELECTIVE-II Advanced Seperation Processes (409345D)

CIVIL

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	Dams and Hydraulic Structures (401007)
Wednesday 22/06/2022	Quantity Surveying, Contracts and Tenders (401008)
Friday 24/06/2022	**ELECTIVE-III** Advanced Structural Design (401009A)
	ELECTIVE-III Statistical Analysis and Computational Methods in Civil Engineering (401009B)
	ELECTIVE-III Hydropower Engineering (401009C)
	ELECTIVE-III Air Pollution and control (401009D)
	ELECTIVE-III Finite Element Method in Civil Engineering (401009E)
	ELECTIVE-III Airport and Bridge Engineering (401009F)
Monday 27/06/2022	**ELECTIVE-IV** Construction Management (401010A)
	ELECTIVE-IV Advanced Transportation Engineering (401010B)
	ELECTIVE-IV Advanced foundation Engineering. (401010C)
	ELECTIVE-IV Coastal Engineering (401010D)
	OPEN ELECTIVE Plumbing Engineering (401010EA)
	OPEN ELECTIVE Green Building Technology (401010EB)
	OPEN ELECTIVE Ferrocement Technology (401010EC)
	OPEN ELECTIVE Sub sea Engineering (401010ED)
	OPEN ELECTIVE Geoinformatics (401010EE)

SEM-I

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Tuesday 21/06/2022	Environmental Engineering - II (401001)
Thursday 23/06/2022	Transportation Engineering (401002)
Saturday 25/06/2022	* Structural Design & Drawing-III (401003) **2.00 PM To 05.00 PM**
Tuesday 28/06/2022	**ELECTIVE-I** Structural Design of Bridges (401004A)
	ELECTIVE-I Systems Approach in Civil Engineering (401004B)
	ELECTIVE-I Advanced Concrete Technology (401004C)
	ELECTIVE-I Architecture and Town Planning (401004D)
	ELECTIVE-I Advanced Engineering Geology with Rock Mechanics (401004E)
Thursday 30/06/2022	**ELECTIVE-II** Matrix Methods of Structural Analysis (401005A)
	ELECTIVE-II Integrated Water Resources Planning & Managment (401005B)
	ELECTIVE-II TQM & MIS in Civil Engineering (401005C)
	ELECTIVE-II Earthquake Engineering (401005D)
	ELECTIVE-II Advanced Geotechnical Engineering (401005E)

NOTE:-

*Please note the timing

COMPUTER

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	Machine Learning (410250)
Wednesday 22/06/2022	Information and Cyber Security (410251)
Friday 24/06/2022	**ELECTIVE-III** Advanced Digital Signal Processing (410252A)
	ELECTIVE-III Compilers (410252B)
	ELECTIVE-III Embedded and Real Time Operating Systems (410252C)
	ELECTIVE-III Soft Computing and Optimization Algorithms (410252D)
Monday 27/06/2022	**ELECTIVE-IV** Software Defined Networks (410253A)
	ELECTIVE-IV Human Computer Interface (410253B)
	ELECTIVE-IV Cloud Computing (410253C)
	ELECTIVE-IV Business Intelligence (410253DA)
	ELECTIVE-IV Enterprise Resourse Planning (410253DB)
	OPEN ELECTIVE Big Data & Data Analytics (410253DC)

SEM-I

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Tuesday 21/06/2022	High Performance Computing (410241)
Thursday 23/06/2022	Artificial Intelligence & Robotics (410242)
Saturday 25/06/2022	Data Analysis (410243)
Tuesday 28/06/2022	**ELECTIVE-I** Digital Signal Processing (410244A)
	ELECTIVE-I Software Architecture & Design (410244B)
	ELECTIVE-I Pervasive & Ubiquitous Computing (410244C)
	ELECTIVE-I Data Mining & Warehousing (410244D)
Thursday 30/06/2022	**ELECTIVE-II** Distributed Systems (410245A)
	ELECTIVE-II Software Testing & Quality Assurance (410245B)
	ELECTIVE-II Operation Research (410245C)
	ELECTIVE-II Mobile Communication (410245D)

ELECTRICAL

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	Switchgear and Protection (403147)
Wednesday 22/06/2022	Power Electronic Controlled Drives (403148)
Friday 24/06/2022	**ELECTIVE-III** High Voltage Engineering (403149A)
	ELECTIVE-III HVDC and FACTS (403149B)
	ELECTIVE-III Digital Control System (403149C)
	ELECTIVE-III Intelligent Systems and Applications in Electrical Engineering (403149D)
	ELECTIVE-III Analog Electronics and Sensing Technology [Open Elective] (403149E)
Monday 27/06/2022	**ELECTIVE-IV** Smart Grid (403150A)
	ELECTIVE-IV Robotics and Automation (403150B)
	ELECTIVE-IV Illumination Engineering (403150C)
	ELECTIVE-IV VLSI Design[Open Elective] (403150D)

SEM-I

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Tuesday 21/06/2022	Power System Operation & Control (403141)
Thursday 23/06/2022	PLC & SCADA Applications (403142)
Saturday 25/06/2022	Control System-II (403145)
Tuesday 28/06/2022	**ELECTIVE-I** Fundamentals of Microcontroller & its Applications (403143A)
	ELECTIVE-I Power Quality (403143B)
	ELECTIVE-I Renewable Energy System (403143C)
	ELECTIVE-I Digital Signal Processing (403143D)
Thursday 30/06/2022	**ELECTIVE-II** Restructuring & De Regulation (403144A)
	ELECTIVE-II Electromagnetic Field (403144B)
	ELECTIVE-II EHV AC Transmission (403144C)
	ELECTIVE-II Electric & Hybrid Vehicles (403144D)
	ELECTIVE-II Special Purpose Machines (403144E)

ELECTRONICS

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	Computer Networks & Security (404209)
Wednesday 22/06/2022	Process Instrumentation (404210)
Friday 24/06/2022	**ELECTIVE-III** Automotive Electronics (404211A)
	ELECTIVE-III Artificial Intelligence and Machine Learning (404211B)
	ELECTIVE-III Optical and Microwave Communication (404211C)
	ELECTIVE-III Audio Video Engineering (404211D)
	ELECTIVE-III Testing and verification for SoC Design (404211E)
Monday 27/06/2022	**ELECTIVE-IV** Robotics (404212A)
	ELECTIVE-IV Wireless Sensor Networks (404212B)
	ELECTIVE-IV Renewable Energy Systems & DSM (404212C)
	ELECTIVE-IV TM4C123GH6PM Microcontroller (404212D)
	OPEN ELECTIVE * Advanced Automotive Electronics (404192DA)
	OPEN ELECTIVE * Industrial Internet of Things (404192DB)
	OPEN ELECTIVE * Programmable System on Chip (404192DC)
	OPEN ELECTIVE * Data Science & Analytics (404192DD)

Note : *Common with E&TC

SEM-I

Day & Date	2015 Course Time-02.00 PM To 04.30 PM
Tuesday 21/06/2022	VLSI Design (404201)
Thursday 23/06/2022	Advnaced Power Electronics (404202)
Saturday 25/06/2022	Electronics System Design (404203)
Tuesday 28/06/2022	**ELECTIVE-I** Digital Image & Video Processing (404204A)
	ELECTIVE-I Audio & Speech Processing (404204B)
	ELECTIVE-I Embedded Systems & RTOS (404204C)
	ELECTIVE-I Internet of Things (404204D)
	ELECTIVE-I Software Defined Radio (404204E)
Thursday 30/06/2022	**ELECTIVE-II** Mobile Communication (404205A)
	ELECTIVE-II Bio-Medical Electronics (404205B)
	ELECTIVE-II Optimization Techniques (404205C)
	ELECTIVE-II Computer Modeling & Simulation (404205D)
	ELECTIVE-II Digital Signal Processor TMS320C67X (404205E)

ELECTRONICS & TELECOMMUNICATION

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	Mobile Communication (404189)
Wednesday 22/06/2022	Broadband Communication Systems (404190)
Friday 24/06/2022	**ELECTIVE-III** Machine Learning (404191A)
	ELECTIVE-III PLC s and Automation (404191B)
	ELECTIVE-III Audio and Speech Processing (404191C)
	ELECTIVE-III Software Defined Radio (404191D)
	ELECTIVE-III Audio Video Engineering (404191E)
Monday 27/06/2022	**ELECTIVE-IV** Robotics (404192A)
	ELECTIVE-IV Biomedical Electronics (404192B)
	ELECTIVE-IV Wireless Sensor Networks (404192C)
	ELECTIVE-IV Renewable Energy Systems (404192D)
	OPEN ELECTIVE Advanced Automotive Electronics (404192DA)
	OPEN ELECTIVE Industrial Internet of Things (404192DB)
	OPEN ELECTIVE Programmable System on Chip (404192DC)
	OPEN ELECTIVE Data Science & Analytics (404192DD)

SEM-I

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Tuesday 21/06/2022	VLSI Design & Technology (404181)
Thursday 23/06/2022	Computer Networks & Security (404182)
Saturday 25/06/2022	Radiation & Microwave Techniques (404183)
Tuesday 28/06/2022	**ELECTIVE-I** Digital Image video Processing (404184A)
	ELECTIVE-I Industrial Drives & Control (404184B)
	ELECTIVE-I Embedded System & RTOS (404184C)
	ELECTIVE-I Internet of Things (404184D)
Thursday 30/06/2022	**ELECTIVE-II** Wavelets (412185A)
	ELECTIVE-II Electronics Product Design (412185B)
	ELECTIVE-II Optimization Techniques (412185C)
	ELECTIVE-II Artificial Intelligence (412185D)
	ELECTIVE-II Electronics in Agriculture (412185E)

INFORMATION TECHNOLOGY

SEM-II

Day & Date	2015 Course Time-02.00 PM To 04.30 PM
Monday 20/06/2022	Distributed Computing System (414462)
Wednesday 22/06/2022	Ubiquitous Computing (414463)
Friday 24/06/2022	**ELECTIVE-III** Internet of Things (IoT) (414464A)
	ELECTIVE-III Information storage and retrieval (414464B)
	ELECTIVE-III Multimedia Techniques (414464C)
	ELECTIVE-III Internet and Web Programming (414464D)
	ELECTIVE-III Computational Optimization (414464E)
Monday 27/06/2022	**ELECTIVE-IV** Rural Technologies and Community Development (414465A)
	ELECTIVE-IV Parallel Computing (414465B)
	ELECTIVE-IV Computer Vision (414465C)
	ELECTIVE-IV Social Media Analytics (414465D)

SEM-I

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Tuesday 21/06/2022	Information & Cyber Security (414453)
Thursday 23/06/2022	Machine Learning & Applications (414454)
Saturday 25/06/2022	Software Design & Modeling (414455)
Tuesday 28/06/2022	**ELECTIVE-I** Wireless Communications (414456A)
	ELECTIVE-I Natural Language Processing (414456B)
	ELECTIVE-I Usability Engineering (414456C)
	ELECTIVE-I Multicore & Concurrent Systems (414456D)
	ELECTIVE-I Business Analytics & Intelligence (414456E)
Thursday 30/06/2022	**ELECTIVE-II** Software Defined Networks (414457A)
	ELECTIVE-II Soft Computing (414457B)
	ELECTIVE-II Software Testing & Quality Assurance (414457C)
	ELECTIVE-II Compiler Construction (414457D)
	ELECTIVE-II Gamification (414457E)

INSTRUMENTATION & CONTROL

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	Process Instrumentation (406268)
Wednesday 22/06/2022	Industrial Automation (406269)
Friday 24/06/2022	**ELECTIVE-III** Building Automation (406270A)
	ELECTIVE-III Robotics and Automation (406270B)
	ELECTIVE-III Environmental Instrumentation (406270C)
	ELECTIVE-III Digital Image Processing (406270D)
	ELECTIVE-III Process Modelling and Optimization (406270E)
Monday 27/06/2022	**ELECTIVE-IV** Reliability Engineering (406271A)
	ELECTIVE-IV Renewable Energy Systems (406271B)
	ELECTIVE-IV Instrumentation in Agriculture and Food Industries (406271C)
	ELECTIVE-IV Smart Material and Systems (406271D)

SEM-I

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Tuesday 21/06/2022	Process Dynamics & Control (406261)
Thursday 23/06/2022	Project Engineering & Management (406262)
Saturday 25/06/2022	Computer Techniques & Applications (406263)
Tuesday 28/06/2022	**ELECTIVE-I** Industrial Internet of Things (406264A)
	ELECTIVE-I Electrical Drives (406264B)
	ELECTIVE-I Advanced Digital Signal Processing (406264C)
	ELECTIVE-I Advanced Bio-Medical Instrumentation (406264D)
	ELECTIVE-I Digital Control Systems (406264E)
Thursday 30/06/2022	**ELECTIVE-II** Smart & Wireless Instrumentation (406265A)
	ELECTIVE-II Instrumentation & Control for Power Plants (406265B)
	ELECTIVE-II Automotive Instrumentation (406265C)
	ELECTIVE-II Opto-Electronics Instrumentation (406265D)
	ELECTIVE-II Soft Computing (406265E)

MECHANICAL

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	Energy Engineering (402047)
Wednesday 22/06/2022	* Mechanical System Design (402048) **2.00 PM To 05.00 PM**
Friday 24/06/2022	**ELECTIVE-III** Tribology (402049A)
	ELECTIVE-III Industrial Engineering (402049B)
	ELECTIVE-III Robotics (402049C)
Monday 27/06/2022	**ELECTIVE-IV** Advanced Manufacturing Processes (402050A)
	ELECTIVE-IV Solar & Wind Energy (402050B)
	ELECTIVE-IV Product Design and Development (402050C)

NOTE:- *Please Note The Timing*

SEM-I

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Tuesday 21/06/2022	@ Refrigeration and Air Conditioning (302049)
	Hydraulics & Pneumatics (402041)
Thursday 23/06/2022	CAD/CAM Automation (402042)
Saturday 25/06/2022	Dynamics of Machinery (402043)
Tuesday 28/06/2022	**ELECTIVE-I** Finite Element Analysis (402044A)
	ELECTIVE-I Computational Fluid Dynamics (402044B)
	ELECTIVE-I Heating Ventilation & Air Conditioning (402044C)
Thursday 30/06/2022	**ELECTIVE-II** Automobile Engineering (402045A)
	ELECTIVE-II Operation Research (402045B)
	ELECTIVE-II Energy Audit & Management (402045C)

NOTE: - *@ The Students who have not studied the subject Refrigeration & Air Conditioning in T.E. 2012 pattern and who got admitted in B.E. 2015 pattern.*

MECHANICAL-SANDWICH

SEM-II

Day & Date	2015 Course Time-2.00 PM To 04.30 PM
Monday 20/06/2022	** Energy Engineering (402047)
Wednesday 22/06/2022	** Mechanical System Design (402048) **2.00 PM To 05.00 PM**
Friday 24/06/2022	Mechanical Vibrations (402066)
Monday 27/06/2022	**ELECTIVE-I** Computational Fluid Dynamics (402068A)
	ELECTIVE-I CAD/ CAM Automation (402068B)
	ELECTIVE-I Finite Element Analysis (402068C)
	ELECTIVE-I Hydraulics and Pneumatics (402068D)
Wednesday 29/06/2022	**ELECTIVE-II** Energy Audit and Management (402069A)
	ELECTIVE-II Operations Research (402069B)

NOTE:- ** *Common to Mechanical Engineering*

SEM-I

Day & Date	2015 Course Time-2.00 PM To 05.00 PM
Tuesday 28/06/2022	Automobile Engineering (Self-Study-III) (402064)
Thursday 30/06/2022	Plant Engineering and Maintenance (Self- Study-III) (402065)

HONORS/MINORS

SEM-II

Day & Date	Honors/Minors	2015 Course Time-02.00 PM To 04.30 PM
Friday 01/07/2022	Artificial Intelligence And Machine	Soft Computing and Deep Learning (410303)
	Cyber Security	Information Systems Management (410403)
	Data Science	Artificial Intelligence for Big Data Analytics (410503)
	Internet of Things	Internet of Things Security (410603)
	Virtual Reality And Augmented Reality	Application Development using Augmented Reality and Virtual Reality (410703)

HONORS/MINORS

SEM-I

Day & Date	Honors/Minors	2015 Course Time-02.00 PM To 04.30 PM
Saturday 02/07/2022	Artificial Intelligence And Machine	Machine Learning (410301)
	Cyber Security	Internet of Things and Embedded Security (410401)
	Data Science	Machine Learning and Data Science (410501)
	Internet of Things	Machine Learning for Internet of Things (410601)
	Virtual Reality And Augmented Reality	Virtual Reality in Game Development (410701)

Note: The Backlog Students of B.E. 2012 Pattern will have to appear for equivalence subject of B.E. 2015 Pattern.

Ganeshkhind, Pune - 411 007

Ref.No/XCT/137

Date: 28/05/2022

Director

Board of Examinations and Evaluation