

SAVITRIBAI PHULE PUNE UNIVERSITY

(Formerly University of Pune)



EXAMINATION CIRCULAR NO. 181 OF. 2024

BACHELOR OF ENGINEERING (2019 PATTERN)

Examination of INSEM AUG./SEPT. -2024

(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 other materials 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.

B.E. (AUTOMOBILE ENGINEERING)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Automotive Testing and Certification	416481
Monday, 02/09/2024	Machine and Vehicle Dynamics	416482
Wednesday, 04/09/2024	(ELECTIVE - III) Artificial Intelligence and Machine Learning	416484 A
	(ELECTIVE - III) Automotive Control Systems	416484 B
	(ELECTIVE - III) Internet of Things**	402044 E
Thursday, 05/09/2024	(ELECTIVE - IV) Finite Elements Analysis	416485 A
	(ELECTIVE - IV) Computational Fluid Dynamics	416485 B

NOTE: ** COMMON WITH MECHANICAL ENGINEERING

B.E. (BIOTECHNOLOGY ENGINEERING)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Biochemical Engineering	415461
Monday, 02/09/2024	Bioinformatics	415462
Wednesday, 04/09/2024	(ELECTIVE - III) Bioprocess Equipment Design	415463 A
	(ELECTIVE - III) Environmental Biotechnology	415463 B
	(ELECTIVE - III) Genomics	415463 C
Thursday, 05/09/2024	(ELECTIVE - IV) Bioenergy and Renewable Resources	415464 A
	(ELECTIVE - IV) Nanotechnology	415464 B
	(ELECTIVE - IV) Stem Cell Biology and Regenerative Medicine	415464 C

B.E. (CHEMICAL ENGINEERING)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Process Dynamics and Control	409341
Monday, 02/09/2024	Chemical Reaction Engineering- II	409342
Tuesday, 03/09/2024	Chemical Engineering Design	409343
Wednesday, 04/09/2024	(ELECTIVE - III) Environmental Engineering	409344 A
	(ELECTIVE - III) Membrane Technology	409344 B
	(ELECTIVE - III) Industrial Piping	409344 C
	(ELECTIVE - III) Petroleum Refining	409344 D
Thursday, 05/09/2024	(ELECTIVE - IV) Chemical Process Synthesis	409345 A
	(ELECTIVE - IV) Industrial Management & Entrepreneurship	409345 B
	(ELECTIVE - IV) Green Technology	409345 C
	(ELECTIVE - IV) Advance Separation Processes	409345 D

B.E. (CIVIL)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Foundation Engineering	401001
Monday, 02/09/2024	Transportation Engineering	401002
Wednesday, 04/09/2024	(ELECTIVE - III) Coastal Engineering	401003 A
	(ELECTIVE - III) Advanced Design of Concrete Structures (Time – 2.00 p.m to 3.15 p.m.)	401003 B
	(ELECTIVE - III) Integrated Water Resources Planning & Management	401003 C
	(ELECTIVE - III) Finite Element Method	401003 D
	(ELECTIVE - III) Data Analytics	401003 E
	(ELECTIVE - III) Operation Research	401003 F
Thursday, 05/09/2024	(ELECTIVE - IV) Air Pollution and Control	401004 A
	(ELECTIVE - IV) Advanced Design of Steel Structures (Time – 2.00 p.m to 3.15 p.m.)	401004 B
	(ELECTIVE - IV) Statistical Analysis and Computational Method	401004 C
	(ELECTIVE - IV) Airport and Bridge Engineering	401004 D
	(ELECTIVE - IV) Design of Prestressed Concrete Structures (Time – 2.00 p.m to 3.15 p.m.)	401004 E
	(ELECTIVE - IV) Formwork and Plumbing Engineering	401004 F

B.E. (COMPUTER ENGINEERING)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Design and Analysis of Algorithms	410241
Monday, 02/09/2024	Machine Learning	410242
Tuesday, 03/09/2024	Block chain Technology	410243
Wednesday, 04/09/2024	(ELECTIVE - III) Pervasive Computing	410244 A
	(ELECTIVE - III) Multimedia Techniques	410244 B
	(ELECTIVE - III) Cyber Security and Digital Forensics	410244 C
	(ELECTIVE - III) Object Oriented Modeling and Design	410244 D
	(ELECTIVE - III) Digital Signal Processing	410244 E
Thursday, 05/09/2024	(ELECTIVE - IV) Information Retrieval	410245 A
	(ELECTIVE - IV) GPU Programming and Architecture	410245 B
	(ELECTIVE - IV) Mobile Computing	410245 C
	(ELECTIVE - IV) Software Testing and Quality Assurance	410245 D
	(ELECTIVE - IV) Compilers	410245 E

B.E. (MECHANICAL)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Heating Ventilation Air-Conditioning and Refrigeration	402041
Monday, 02/09/2024	Dynamics of Machinery (Time – 2.00 p.m to 3.15 p.m.)	402042
Wednesday, 04/09/2024	(ELECTIVE - III) Automobile Design	402044 A
	(ELECTIVE - III) Design of Heat Transfer Equipments	402044 B
	(ELECTIVE - III) Modern Machining Processes	402044 C
	(ELECTIVE - III) Industrial Engineering	402044 D
	(ELECTIVE - III) Internet of Things	402044 E
	(ELECTIVE - III) Computational Fluid Dynamics	402044 F
Thursday, 05/09/2024	(ELECTIVE - IV) Product Design and Development	402045 A
	(ELECTIVE - IV) Experimental Methods in Thermal Engineering	402045 B
	(ELECTIVE - IV) Additive Manufacturing	402045 C
	(ELECTIVE - IV) Operations Research	402045 D
	(ELECTIVE - IV) Augmented Reality and Virtual Reality	402045 E

B.E. (ELECTRICAL)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Power System Operation & Control	403141
Monday, 02/09/2024	Advanced Control System	403142
Wednesday, 04/09/2024	(ELECTIVE - III) PLC and SCADA	403143 A
	(ELECTIVE - III) Power Quality Management	403143 B
	(ELECTIVE - III) High Voltage Engineering	403143 C
	(ELECTIVE - III) Robotics and Automation	403143 D
Thursday, 05/09/2024	(ELECTIVE - IV) Alternate Energy System	403144 A
	(ELECTIVE - IV) Electrical & Hybrid Vehicle	403144 B
	(ELECTIVE - IV) Special-purpose Machines	403144 C
	(ELECTIVE - IV) HVDC & FACTS	403144 D

B.E. (ELECTRONICS)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	VLSI Design	404201
Monday, 02/09/2024	Advanced Power Electronics	404202
Tuesday, 03/09/2024	Electronic System Design	404203
Wednesday, 04/09/2024	(ELECTIVE - III) Speech Processing *	404184 A
	(ELECTIVE - III) Internet of Things	404204 A
	(ELECTIVE - III) Software Defined Radio	404204 B
	(ELECTIVE - III) Testing and Verification for SOC design	404204 C
	(ELECTIVE - III) Java Script*	404184 C
Thursday, 05/09/2024	(ELECTIVE - IV) Mobile Communication	404205 A
	(ELECTIVE - IV) Embedded Systems	404205 B
	(ELECTIVE - IV) Optimization Techniques	404205 C
	(ELECTIVE - IV) Low power CMOS*	404185 D
	(ELECTIVE - IV) Smart Antennas*	404185 E

NOTE: * COMMON WITH E&TC.

B.E. (ELECTRONICS & TELECOMMUNICATIONS)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Radiation & Microwave Theory	404181
Monday, 02/09/2024	VLSI Design and Technology	404182
Tuesday, 03/09/2024	Cloud Computing	404183
Wednesday, 04/09/2024	(ELECTIVE - III) Speech Processing	404184 A
	(ELECTIVE - III) PLC SCADA & Automation	404184 B
	(ELECTIVE - III) JAVA Script	404184 C
	(ELECTIVE - III) Embedded & RTOS	404184 D
	(ELECTIVE - III) Modernized IoT	404184 E
Thursday, 05/09/2024	(ELECTIVE - IV) Data Mining	404185 A
	(ELECTIVE - IV) Electronic Product Development	404185 B
	(ELECTIVE - IV) Deep Learning	404185 C
	(ELECTIVE - IV) Low Power CMOS	404185 D
	(ELECTIVE - IV) Smart Antennas	404185 E

B.E. (INFORMATION TECHNOLOGY)

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Information and Storage Retrieval	414441
Monday, 02/09/2024	Software Project Management	414442
Tuesday, 03/09/2024	Deep Learning	414443
Wednesday, 04/09/2024	(ELECTIVE - III) Mobile Computing	414444 A
	(ELECTIVE - III) High Performance Computing	414444 B
	(ELECTIVE - III) Multimedia Technology	414444 C
	(ELECTIVE - III) Smart Computing	414444 D
Thursday, 05/09/2024	(ELECTIVE - IV) Bioinformatics	414445 A
	(ELECTIVE - IV) Introduction to DevOps	414445 B
	(ELECTIVE - IV) Computer Vision	414445 C
	(ELECTIVE - IV) Wireless Communications	414445 D

B.E. INSTRUMENTATION & CONTROL

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Process Control Techniques	406261
Monday, 02/09/2024	Project Engineering and Management	406262
Wednesday, 04/09/2024	(ELECTIVE - III) Digital Image Processing	406263 A
	(ELECTIVE - III) Data Analytics	406263 B
	(ELECTIVE - III) Wireless Sensor Networks	406263 C
	(ELECTIVE - III) Process Modelling and Optimization	406263 D
Thursday, 05/09/2024	(ELECTIVE - IV) Cloud Computing	406264 A
	(ELECTIVE - IV) Soft Computing	406264 B
	(ELECTIVE - IV) Automotive Instrumentation	406264 C
	(ELECTIVE - IV) Advanced Control System	406264 D

B.E. PRINTING TECHNOLOGY

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Gravure Printing Techniques	408283
Monday, 02/09/2024	Digital Printing Techniques	408284
Wednesday, 04/09/2024	(ELECTIVE - III) Paper Board and Corrugation Package Technology	408281 A
	(ELECTIVE - III) Polymer Science	408281 B
Thursday, 05/09/2024	(ELECTIVE - IV) Multimedia Advertising	408282 A
	(ELECTIVE - IV) Process Optimization and Total Quality Management in Printing	408282 B

B.E. PRODUCTION ENGINEERING

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Automation and Control Engineering	411081
Monday, 02/09/2024	Operations Research	411082
Wednesday, 04/09/2024	(ELECTIVE - III) Simulation, Modeling and Digital Twin	411083 A
	(ELECTIVE - III) Total Quality management	411083 B
	(ELECTIVE - III) Artificial Intelligence in Manufacturing	411083 C
	(ELECTIVE - III) World Class Manufacturing	411083 D
Thursday, 05/09/2024	(ELECTIVE - IV) Plant Maintenance and industrial safety	411084 A
	(ELECTIVE - IV) Surface Engineering	411084 B
	(ELECTIVE - IV) Reverse Engineering	411084 C
	(ELECTIVE - IV) Entrepreneurship and Innovations	411084 D

B.E. PRODUCTION SANDWICH ENGINEERING

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Manufacturing Automation	411121
Monday, 02/09/2024	Operations Research	411122
Wednesday, 04/09/2024	(ELECTIVE - III) Additive Manufacturing	411123 A
	(ELECTIVE - III) Industrial Robotics	411123 B
	(ELECTIVE - III) Reliability Engineering	411123 C
	(ELECTIVE - III) Micro-Electro mechanical systems	411123 D
Thursday, 05/09/2024	(ELECTIVE - IV) Creative Product Design	411124 A
	(ELECTIVE - IV) Mechatronics	411124 B
	(ELECTIVE - IV) CAD/CAM	411124 C
	(ELECTIVE - IV) Data analytics	411124 D

B.E. ROBOTICS & AUTOMATION

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Machine Vision System	411501
Monday, 02/09/2024	Robot System Reliability and Safety	411502
Wednesday, 04/09/2024	(Elective -III) Advanced Computational Techniques	411503 A
	(Elective -III) Wireless sensor network	411503 B
	(Elective -III) Microprocessor and microcontroller	411503 C
	(Elective -III) Ergonomics and work management	411503 D
Thursday, 05/09/2024	(Elective -IV) Computational Fluid Dynamics	411504 A
	(Elective -IV) Internet of Things and Machine Learning	411504 B
	(Elective -IV) Artificial Neural Networks and fuzzy systems	411504 C
	(Elective -IV) Power Electronics and Drives	411504 D

B.E. ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Information Retrieval in AI	418541
Monday, 02/09/2024	Cloud Computing	418542
Tuesday, 03/09/2024	Deep Learning for AI	418543
Wednesday, 04/09/2024	(Elective -III) Quantum Computing	418544 A
	(Elective -III) Block Chain	418544 B
	(Elective -III) AI in Drones	418544 C
Thursday, 05/09/2024	(Elective -IV) Ethical Hacking and cyber forensics	418545 A
	(Elective -IV) Augmented Reality and Virtual Reality	418545 B
	(Elective -IV) DevOps in Machine Learning	418545 C

B.E. AUTOMATION & ROBOTICS

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Industrial Automation & Control Systems	402541
Monday, 02/09/2024	Robotic Process Automation & Development	402542
Wednesday, 04/09/2024	(Elective -III) Robotics: Cognitive & Medical	402544 A
	(Elective -III) Microprocessors and Microcontrollers	402544 B
	(Elective -III) Modern Machining Processes	402544 C
	(Elective -III) Industrial Engineering	402544 D
	(Elective -III) Computational Fluid Dynamics	402544 E
Thursday, 05/09/2024	(Elective -IV) Lean Manufacturing	402545 A
	(Elective -IV) Project Management	402545 B
	(Elective -IV) Additive Manufacturing	402545 C
	(Elective -IV) Operations Research	402545 D
	(Elective -IV) Augmented Reality and Virtual Reality	402545 E

B.E. ELECTRONICS AND COMPUTER ENGINEERING

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Data Science and Visualization	410341
Monday, 02/09/2024	Web Technology	410342
Tuesday, 03/09/2024	Internet of Things	410343
Wednesday, 04/09/2024	(Elective -III) Big Data & Analytics	410344 A
	(Elective -III) Mobile Application Development	410344 B
	(Elective -III) Information and Cyber Security	410344 C
	(Elective -III) Digital Image Processing	410344 D
Thursday, 05/09/2024	(Elective -IV) Robotics & Automation	410345 A
	(Elective -IV) Human Computer Interface	410345 B
	(Elective -IV) Digital System Design	410345 C
	(Elective -IV) Augmented and Virtual Reality	410345 D

B.E. ARTIFICIAL INTELLIGENCE & DATA SCIENCE

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Machine Learning	417521
Monday, 02/09/2024	Data Modeling & Visualization	417522
Wednesday, 04/09/2024	(Elective -III) Quantum Artificial Intelligence	417523 A
	(Elective -III) Industrial Internet of Things	417523 B
	(Elective -III) Enterprise Architecture and Components	417523 C
	(Elective -III) Bioinformatics	417523 D
Thursday, 05/09/2024	(Elective -IV) GPU Programming and Architecture	417524 A
	(Elective -IV) Information Retrieval	417524 B
	(Elective -IV) UI/UX Design	417524 C
	(Elective -IV) Optimization Algorithms	417524 D

B.E. MECHATRONICS

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Robot Operating System	417541
Monday, 02/09/2024	Data Communication	417542
Tuesday, 03/09/2024	Micro Electro Mechanical Systems	417543
Wednesday, 04/09/2024	(Elective -III) Image Processing and Computer Vision	417544- A
	(Elective -III) Medical Mechatronics	417544- B
	(Elective -III) Virtual Instrumentation	417544- C
Thursday, 05/09/2024	(Elective -IV) Product Design and Development	417545- A
	(Elective -IV) Operation Research	417545- B
	(Elective -IV) Industry 4.0	417545- C

B.E. COMPUTER SCIENCE AND DESIGN

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Saturday, 31/08/2024	Computer Vision	418241
Monday, 02/09/2024	Deep learning	418242
Tuesday, 03/09/2024	Game Design and Development	418243
Wednesday, 04/09/2024	(Elective -III) Object Oriented Modelling and Design	418244 - A
	(Elective -III) Software Testing and Quality Assurance	418244 - B
	(Elective -III) Blockchain Technology	418244 - C
	(Elective -III) Information Retrieval	418244 - D
Thursday, 05/09/2024	(Elective -IV) Natural Language Processing	418245 - A
	(Elective -IV) Software Development for Portable devices	418245 - B
	(Elective -IV) Compiler Design	418245 - C
	(Elective -IV) Advanced UI/UX Design	418245 - D

B.E. HONORS / MINORS

SEMESTER-VII

Time – 2.00 p.m to 3.00 p.m.

Day & Date	SUBJECT (2019 Course)	SUBJECT CODE
Friday, 06/09/2024	Traffic and Transportation Planning	401401
	Work Method Statement Making	401301
	Sustainable Packaging	408214
	Smart Contracts & Cryptocurrency	404181 HBCT
	Industrial Robotics & Automation	404181 HR
	Additive Manufacturing System Design	402014 MJ
	Modelling and Simulation of EHV	302034 MJ
	Electrical Energy Systems	402024 MJ
	System modelling and simulation	302044 MJ
	Machine Learning	410301
	Internet of Things and Embedded Security	410401
	Machine Learning and Data Science	410501
	Machine Learning for Internet of Things	410601
Virtual Reality in Game Development	410701	

Ganeshkhind, Pune-411007
Ref. / XCT /535
Date: 19/08/2024

Director
Board of Examinations & Evaluation