

# **SAVITRIBAI PHULE PUNE UNIVERSITY**

**(Formerly University of Pune)**



**EXAMINATION CIRCULAR NO.121 OF. 2023**

**BACHELOR OF ENGINEERING (2019 PATTERN)**

**Examination of INSEM MARCH/APRIL-2023**

**(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**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Hybrid and Electric Vehicle	416489
<b>Wednesday, 05/04/2023</b>	Automotive System Design	416490
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Alternative Fuels and Emission control	416491 A
	(ELECTIVE - V) Renewable Energy	416491 B
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Transport Management and Automobile Industry	416492 A
	(ELECTIVE - VI) Automotive Safety	416492 B
	(ELECTIVE - VI) Process Planning and Cost Estimation	416492 C

# **B.E. BIOTECHNOLOGY**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Bioprocess Modeling and Simulation	415471
<b>Wednesday, 05/04/2023</b>	Plant Engineering and Project costing	415472
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Biomaterials	415473 A
	(ELECTIVE - V) Molecular diagnostics	415473 B
	(ELECTIVE - V) Bio-therapeutics Technology	415473 C
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Management and Entrepreneurship	415474 A
	(ELECTIVE - VI) IPR, Intellectual Property Rights.	415474 B
	(ELECTIVE - VI) Industrial Organization and Management	415474 C

# **B.E. CHEMICAL ENGINEERING**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Process Modeling and Simulation	409349
<b>Wednesday, 05/04/2023</b>	Process Engineering Costing & Plant Design	409350
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Energy Audit and Conservation	409351 A
	(ELECTIVE - V) Chemical Process Safety	409351 B
	(ELECTIVE - V) Computational Fluid Dynamics	409351 C
	(ELECTIVE - V) Advanced Materials	409351 D
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Catalysis	409352 A
	(ELECTIVE - VI) Nanotechnology	409352 B
	(ELECTIVE - VI) Fuel Cell Technology	409352 C
	(ELECTIVE - VI) Petrochemical Engineering	409352 D

# B.E. CIVIL ENGINEERING

## SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Dams and Hydraulics Structures	401011
Wednesday, 05/04/2023	Quantity Surveying, Contracts and Tenders	401012
Thursday, 06/04/2023	(ELECTIVE - V) Earthquake Engineering	401013 A
	(ELECTIVE - V) Structural Design of Bridges	401013 B
	(ELECTIVE - V) Irrigation and Drainage	401013 C
	(ELECTIVE - V) Design of Precast and Composite Structures	401013 D
	(ELECTIVE - V) Hydropower Engineering	401013 E
	(ELECTIVE - V) Structural Audit and Retrofitting of Structures	401013 F
Saturday, 08/04/2023	(ELECTIVE - VI) TQM and MIS	401014 A
	(ELECTIVE - VI) Advanced Transportation Engineering	401014 B
	(ELECTIVE - VI) Geo Synthetic Engineering	401014 C
	(ELECTIVE - VI) Structural Design of Foundations	401014 D
	(ELECTIVE - VI) Green Structures and Smart Cities	401014 E
	(ELECTIVE - VI) Rural Water Supply and Sanitation	401014 F

# **B.E. COMPUTER ENGINEERING**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	High Performance Computing	410250
<b>Wednesday, 05/04/2023</b>	Deep Learning	410251
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Natural Language Processing	410252 A
	(ELECTIVE - V) Image Processing	410252 B
	(ELECTIVE - V) Software Defined Networks	410252 C
	(ELECTIVE - V) Advanced Digital Signal Processing	410252 D
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Pattern Recognition	410253 A
	(ELECTIVE - VI) Soft Computing	410253 B
	(ELECTIVE - VI) Business Intelligence	410253 C
	(ELECTIVE - VI) Quantum Computing	410253 D

# **B.E. ELECTRICAL ENGINEERING**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Switchgear and Protection	403148
<b>Wednesday, 05/04/2023</b>	Advanced Electrical Drives & Control	403149
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Digital Control System	403150 A
	(ELECTIVE - V) Restructuring and Deregulation	403150 B
	(ELECTIVE - V) Smart Grid	403150 C
	(ELECTIVE - V) Sensor Technology (Open Elective)	403150 D
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) EHV AC Transmission	403151 A
	(ELECTIVE - VI) Illumination Engineering	403151 B
	(ELECTIVE - VI) Electromagnetic Fields	403151 C
	(ELECTIVE - VI) AI and ML (Open Elective)	403151 D

# **B.E. ELECTRONICS ENGINEERING**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Process Instrumentation	404210
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Biomedical Electronics	404211 A
	(ELECTIVE - V) Artificial Intelligence and Neural Network	404211 B
	*(ELECTIVE - V) Android Development	404191 C
	(ELECTIVE - V) Audio Video Engineering	404211 C
	(ELECTIVE - V) Automotive Electronics	404211 D
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Renewable Energy System & DSM	404212 A
	(ELECTIVE - VI) Wireless Sensor Network	404212 B
	*(ELECTIVE - VI) Remote Sensing	404192 C
	*(ELECTIVE - VI) Digital Marketing	404192 D

\* Subjects common with BE E&TC 2019 course



# **B.E. ELECTRONICS & TELECOMMUNICATION ENGINEERING**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Fiber Optic Communication	404190
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Biomedical Signal Processing	404191 A
	(ELECTIVE - V) Industrial Drives & Automation	404191 B
	(ELECTIVE - V) Android Development	404191 C
	(ELECTIVE - V) Embedded System Design	404191 D
	(ELECTIVE - V) Mobile Computing	404191 E
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) System on Chip	404192 A
	(ELECTIVE - VI) Nano Electronics	404192 B
	(ELECTIVE - VI) Remote Sensing	404192 C
	(ELECTIVE - VI) Digital Marketing	404192 D

# **B.E. INFORMATION TECHNOLOGY**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Distributed Systems	414450
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Software Defined Networks	414451 A
	(ELECTIVE - V) Social Computing	414451 B
	(ELECTIVE - V) Natural Language Processing	414451 C
	(ELECTIVE - V) Soft Computing	414451 D
	(ELECTIVE - V) Game Engineering	414451 E
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Ethical Hacking and Security	414452 A
	(ELECTIVE - VI) Augmented and Virtual Reality	414452 B
	(ELECTIVE - VI) Business Analytics and Intelligence	414452 C
	(ELECTIVE - VI) Blockchain Technology	414452 D

# **B.E. INSTRUMENTATION & CONTROL**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Process Instrumentation	406268
<b>Wednesday, 05/04/2023</b>	Advanced Embedded System	406269
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Electric Vehicles	406270 A
	(ELECTIVE - V) Safety Instrumentation Systems	406270 B
	(ELECTIVE - V) Renewable Energy Systems	406270 C
	(ELECTIVE - V) Optical Instrumentation	406270 D
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Cyber Security	406271 A
	(ELECTIVE - VI) Automation in Agriculture	406271 B
	(ELECTIVE - VI) Environmental Instrumentation	406271 C

# B.E. MECHANICAL ENGINEERING

## SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Monday, 03/04/2023	Computer Integrated Manufacturing	402048
Wednesday, 05/04/2023	Energy Engineering	402049
Thursday, 06/04/2023	(ELECTIVE - V) Quality and Reliability Engineering	402050 A
	(ELECTIVE - V) Energy Audit and Management	402050 B
	(ELECTIVE - V) Manufacturing Systems and Simulation	402050 C
	(ELECTIVE - V) Engineering Economics and Financial Management	402050 D
	(ELECTIVE - V) Organizational Informatics	402050 E
	(ELECTIVE - V) Computational Multi Body Dynamics	402050 F
Saturday, 08/04/2023	(ELECTIVE - VI) Process Equipment Design	402051 A
	(ELECTIVE - VI) Renewable Energy Technologies	402051 B
	(ELECTIVE - VI) Automation and Robotics	402051 C
	(ELECTIVE - VI) Industrial Psychology and Organizational Behavior	402051 D
	(ELECTIVE - VI) Electrical and Hybrid Vehicle	402051 E

# **B.E. MECHANICAL SANDWICH**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Design of Transmission Elements** <b>TIME: 09.30 AM TO 11.00 AM.</b>	402066
<b>Wednesday, 05/04/2023</b>	Machine Dynamics and Vibration	402067
<b>Thursday, 06/04/2023</b>	Artificial Intelligence in Mechanical Engineering	402068
<b>Saturday, 08/04/2023</b>	(ELECTIVE - I) Automobile Engineering	402069 A
	(ELECTIVE - I) Refrigeration and Air-Conditioning	402069 B
	(ELECTIVE - I) Fluid Power Control	402069 C
	(ELECTIVE - I) Additive Manufacturing	402045 C
	(ELECTIVE - I) Automation and Robotics	402051 C
<b>Monday, 10/04/2023</b>	(ELECTIVE - II) Product Design and Development	402045 A
	(ELECTIVE - II) Operations Research	402045 D
	(ELECTIVE - II) Electrical and Hybrid Vehicle	402051 E
	(ELECTIVE - II) Quality and Reliability Engineering	402050 A
	(ELECTIVE - II) Internet of Things	402044 E

Note: \*\* Please note the Timing

# **B.E. PRINTING TECHNOLOGY**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Operations Management in Printing and Packaging	408290
<b>Wednesday, 05/04/2023</b>	Adhesives and Coatings in Packaging	408291
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Food and Pharmaceutical Packaging	408288 A
	(ELECTIVE - V) Printed Electronics	408288 B
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Sustainable Packaging	408289 A
	(ELECTIVE - VI) Management Information Systems and Data Science	408289 B

# **B.E. PRODUCTION ENGINEERING**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Monday, 03/04/2023</b>	Computer Integrated Design and Manufacturing	411088
<b>Wednesday, 05/04/2023</b>	Industrial Robotics	411089
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) E-Mobility in Automobile	411090 A
	(ELECTIVE - V) Smart Manufacturing	411090 B
	(ELECTIVE - V) Manufacturing System design	411090 C
	(ELECTIVE - V) Ergonomics and Work Management	411090 D
<b>Saturday, 08/04/2023</b>	(ELECTIVE - VI) Facility Planning	411091 A
	(ELECTIVE - VI) Additive Manufacturing	411091 B
	(ELECTIVE - VI) Reliability Engineering	411091 C
	(ELECTIVE - VI) Data Analytics	411091 D

# **B.E. PRODUCTION SANDWICH ENGINEERING**

## **SEM-VIII**

**TIME: 09.30 AM TO 10.30 AM.**

<b>DAY &amp; DATE</b>	<b>SUBJECT NAME</b>	<b>SUBJECT CODE</b>
<b>Thursday, 06/04/2023</b>	(ELECTIVE - V) Supply Chain Management	411134 A
	(ELECTIVE - V) Plant Engineering and Maintenance	411134 B
	(ELECTIVE - V) Industrial Relation and Human Resource Management	411134 C
	(ELECTIVE - V) Marketing mgmt.	411134 D



# B.E. HONORS/MINORS

## SEM-VIII

TIME: 09.30 AM TO 10.30 AM.

DAY & DATE	SUBJECT NAME	SUBJECT CODE
Tuesday, 11/04/2023	Land Use and Land Cover	401403
	Tunnel Engineering	401303
	Brand and Packaging Management	408216
	Block Chain Solutions	404183 HBCT
	Artificial Intelligence in Robotics	404183 HR
	3D Printing Applications & Entrepreneurship	402016 MJ
	e-Vehicle Standards, Charging & Safety	302036 MJ
	Sustainable Energy Conversion Systems	402026 MJ
	Systems Engineering Management	302046 MJ
	Soft Computing and Deep Learning	410303
	Information Systems Management	410403
	Artificial Intelligence for Big Data Analytics	410503
	Internet of Things Security	410603
	Application Development using Augmented Reality and Virtual Reality	410703

Ganeshkhind, Pune - 411 007

Ref.No/XCT/277

Date: 20/03/2023

Director  
Board of Examinations and Evaluation