

UNIVERSITY OF PUNE



Examination Circular No. 145 of 2013
Programme of B.E. 2003 & 2008 Course (All Branches) Examinations, November, 2013

INSTRUCTIONS FOR CANDIDATES

1. Candidates are required to be present at respective college fifteen minutes before the time fixed for the first paper and ten minutes before the time of each subsequent papers.
(As per Circular No.128/2013 dated 10.10.2013)
 2. Candidates are forbidden from taking any material into the examination hall that can be used for malpractice at the time of examination.
 3. No request for any special concession such as a change in time or any day fixed for the University Examination on religious or any other ground shall be granted.
 4. Candidates are requested to see the Notice -Board at their place of examination regularly for changes if any, that may be notified later in the programme.
 5. Candidates are requested to note the Day, Date and Time of every Paper on every Day
 6. Candidates are permitted to use stencils at the time of examination.
 7. Candidates appearing for the examinations are expected to provide themselves with Side- rules.
 8. The exchange or loan of side-rules, drawing instruments of other materials used in the examination hall is Not Permitted while the examinations are in process. Candidates must bring their own instruments and will not be allowed to borrow from each other under any circumstances.
 9. Use of non-programmable battery operated electronic Calculator of Pocket-size is allowed. The exchange of Calculators is not allowed.
 10. The Written Examination will be conducted in the following order :
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B.E. (CIVIL)
Time – 2.30 to 5.30 p.m.
SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Dams & Hydraulic Structures (401008)	Quantity Surveying Contracts and Tenders (401009)
Wednesday, 13.11.2013	Transportation Engineering – II (401009)	Transportation Engineering – II (401010)
Friday, 15.11.2013	Foundation Engineering (401010)	<u>Elective – III (401007)</u> a) Advanced Structural Design b) Advanced Foundation Engineering c) Advanced Engineering Geology with Rock Mechanics d) Advanced Environmental Management e) Construction Management
Saturday, 16.11.2013	<u>Elective – II (401007)</u> a) Advanced Concrete Tech b) Earthquake Engineering c) Adv. transportation Engineering *(2. 30 p.m. to 6. 30 p.m.) d) Adv. Structured Design e) Construction Management f) Integrated Water Resources Planning & Management g) Adv. Engineering Geology with rock Mechanics	<u>Elective – IV (401008)</u> a) Integrated Water Resources and Planning b) Advanced Transportation Engineering c) Statistical Analysis And Computational Methods in Civil Engg. <u>Open Elective (401008)</u> a) Finite Element Method in Civil Engg., b) Geoinformatics c) Hydropower Engineering d) Industrial Waste Water Management e) Mechanics of Waves

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Hydrology & Irrigation(401001)	Environmental Engineering – II (401001)
Wednesday, 20.11.2013	Environmental Engg. II(401002)	Dams and Hydraulic Structures (401002)
Friday, 22.11.2013	Quantity Surveying Contracts & Tenders (401003) *(2. 30 p.m. to 6. 30 p.m.)	Structure Design – III (401003) *(2:30 p.m. to 6:30 p.m.)
Monday, 25.11.2013	Structural Design III (401004) *(2. 30 p.m. to 6. 30 p.m.)	<u>Elective – I (401004)</u> a) Structural Design in Bridges b) System Approach in Civil Engineering c) Air Pollution and Control d) Architecture and Town Planning e) Advanced Geotechnical Engineering
Wednesday, 27.11.2013	<u>Elective – I (401005)</u> a) Systems Approach in Civil Engg. b) Architecture and Town Planning c) Advanced Geotechnical Engg. d) Finite Element Method e) Structural Design of Bridges f) Advanced Environmental Management h) Geoinformatics	<u>Elective – II (401005)</u> a) Matrix Methods of Structural Analysis b) Hydroinformatics c) TQM & MIS in Civil Engineering d) Earthquake Engineering e) Advanced concrete Technology

* Please note the Timing

B.E. (MECHANICAL)
Time – 2.30 to 5.30 p.m.
SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	CAD/CAM & Automation (402047)	Power Plant Engineering (402047)
Wednesday, 13.11.2013	Power Plant Engineering (402048)	Mechanical System Design (402048) *(2.30 p.m. to 6.30 p.m.)
Friday, 15.11.2013	Industrial Fluid Power (402049)	<u>Elective – III (402049)</u> a) Computational Fluid Dynamics b) Finite Element Method c) Robotics d) Advanced Air Conditioning and Refrigeration
Saturday, 16.11.2013	<u>Elective - II (402050)</u> a) Robotics b) Comp. Fluid Dynamics c) Energy Management d) Rapid Prototyping e) Reliability Engg. f) Automobile Engg.	<u>Elective – IV (402050)</u> a) Industrial Heat Transfer Equipments b) Management Information System c) Reliability Engineering <u>d) Open Elective</u> i) Cryogenic Engineering ii) Product Lifecycle Management iii) Industrial Automation

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Mechanical System Design (402041) *(2.30 p.m. to 6.30 p.m.)	CAD/CAM Automation (402041)
Wednesday, 20.11.2013	Dynamics of Machinery (402042)	Dynamics of Machinery (402042)
Friday, 22.11.2013	Mechatronics (402043)	Industrial Fluid Power (402043)
Monday, 25.11.2013	Gas Turbines and Jet Propulsion (402044)	<u>Elective – I (402044)</u> a) Energy Audit and Management b) Product Design and Development c) Design of Pumps, Blowers and Compressors d) Tribology
Wednesday, 27.11.2013	<u>Elective – I (402045)</u> a) Product Design & Development b) Material Engg. And their Processing c) Alternative Energy Sources d) Kinematic Analysis and Synthesis e) Operation Research f) Costing & Cost Control	<u>Elective – II (402045)</u> a) Automobile Engineering b) Machine Tool Design c) Quantitative and decision making Techniques

* Please note the Timing

B.E. (MECHANICAL SANDWICH)**Time – 2.30 to 5.30 p.m.****SEMESTER – II**

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	CAD/CAM & Automation (402048)	-----
Wednesday, 13.11.2013	-----	-----
Friday, 15.11.2013	-----	-----
Saturday, 16.11.2013	<u>Elective – III (402065)</u> a) Industrial Engg. b) Costing & Cost Control c) Production Management d) Machine Tools Design e) Non-conventional Energy	<u>Elective – IV (402066)</u> a) Costing & Cost Control b) Machine Tool Design c) Energy Management & Industrial Pollution

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Design Engineering (402061) *(2.30 p.m. to 6.30 p.m.)	Machine & Computer Aided Design (402061) *(2.30 p.m. to 6.30 p.m.)
Wednesday, 20.11.2013	Dynamics of Machinery (402042)	Dynamics of Machinery (402042) (Common to Mechanical)
Friday, 22.11.2013	-----	Industrial Hydraulics & Pneumatics (402062)
Monday, 25.11.2013	Industrial Hydraulics & Pneumatics (402062)	<u>Elective – II (402063)</u> a) Refrigeration & Air Conditioning b) Computational Fluid Dynamics c) Finite Element Method
Wednesday, 27.11.2013	<u>Elective – I (402063)</u> a) Refrigeration & Air Conditioning b) Robotics c) Tribology d) Automobile e) Computer Fluid Dynamics	<u>Elective – III(402064)</u> a) Automobile Engineering b) Operations Research c) Robotics

*** Please note the Timing**

B.E. (ELECTRICAL)
Time – 2.30 to 5.30 p.m.
SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Energy Management (403147)	Switchgear and Protection (403147)
Wednesday, 13.11.2013	Switchgear & Protection (403148)	Industrial Drives and Control (403148)
Friday, 15.11.2013	Digital Control System (403149)	<u>Elective – III (403149)</u> a) VLSI Design b) High Voltage Engineering c) Digital Signal Processing d) ANN and its Applications in Electrical Engineering
Saturday, 16.11.2013	<u>Elective II (403150)</u> a) VLSI Design b) High Voltage Engineering c) Digital Signal Processing d) ANN & Application in Electrical Engineering	<u>Elective – IV (403150)</u> a) Modeling of Electrical System b) Renewable Energy System c) Digital Control System Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Power System Operation & Control (403141)	PLC and SCADA Applications (403141)
Wednesday, 20.11.2013	Utilization of Electrical Energy (403142)	Power System Operation and Control (403142)
Friday, 22.11.2013	Industrial Drives & Control(403144)	Control System – II (403145)
Monday, 25.11.2013	Control System II (403145)	<u>Elective – I (403143)</u> a) Robotics and Automation b) Power Quality c) Illumination Engineering d) Project Management
Wednesday, 27.11.2013	<u>Elective I (403143)</u> a) Robotics & Automation b) Power Quality c) Illumination Engineering d) Project Management e) Restructuring & Deregulation	<u>Elective – II (403144)</u> a) Restructuring and Deregulation b) Embedded System c) EHV Transmission d) Smart Grid

B.E. (ELECTRONICS & TELECOMMUNICATIONS)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Electronics Measurement System (404222)	Telecommunication & Switching System (404187)
Wednesday, 13.11.2013	Telecom. Networks & Management (404223)	Optical Fiber Communication (404188)
Friday, 15.11.2013	Optical & Microwave Communication (404224)	<u>Elective – III (404189)</u> a) Soft Computing b) Speech Processing c) Television and Video Engineering d) Test and Measurement Systems
Saturday, 16.11.2013	<u>Elective - II (404225)</u> a) Adv. Communication System b) Digital Image Processing c) Biomedical Engineering d) System Programming & Operating System e) Audio-Video Engineering	<u>Elective – IV (404190)</u> a) Artificial Intelligence b) Automotive Electronics c) Nanotechnology d) PLC and Industrial Process Automation e) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Computer Network (404214)	Electronics Product Design (404181)
Wednesday, 20.11.2013	Voice Network (404215)	VLSI Design & Technology (404182)
Friday, 22.11.2013	Electronics Product Design (404216)	Computer Network (404183)
Monday, 25.11.2013	VLSI Design (404217)	<u>Elective – I (404184)</u> a) Digital Image Processing b) Embedded System and RTOS c) Industrial Drives Control d) Microwave Communication and Radar
Wednesday, 27.11.2013	<u>Elective I (404218)</u> a) Embedded System Design b) Advanced Power Electronics c) Artificial Neural Networks d) Robotics and Industrial Automation e) Adv. Digital Signal Processing	<u>Elective – II -(404185)</u> a) Entrepreneurship Development b) Joint Time Frequency Analysis c) Micro-electromechanical and system on chip(MEMS and SOC) d) Mobile Communication

B.E. (ELECTRONICS)
Time – 2.30 to 5.30 p.m.
SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Electronics Measurement System (404209)	Computer Network & Security (404207)
Wednesday, 13.11.2013	Management Information System (404210)	Process Automation (404208)
Friday, 15.11.2013	Biomedical Electronics (404211)	<u>Elective – III (404209)</u> a) Audio and Video Engineering b) Image Processing and Machine Vision c) Optical and Microwave Communication d) Soft Computing Tools
Saturday, 16.11.2013	<u>Elective – II (404212)</u> a) Real Time Operating System b) Artificial Intelligence c) Robotics & Industrial Automation d) System Programming & Operation System e) Digital Image Processing	<u>Elective – IV (404210)</u> a) Advanced Communication System b) Automotive Electronic Systems c) Artificial Intelligence d) Nanotechnology in Electronics e) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Computer Network (404201)	Electronics System Design (404201)
Wednesday, 20.11.2013	Electronic Product Design (404202)	VLSI Design (404202)
Friday, 22.11.2013	Advanced Power Electronics (404203)	Embedded System (404203)
Monday, 25.11.2013	VLSI Design (404204)	<u>Elective – I (404204)</u> a) Advanced Measurement Systems b) Advanced Power Electronics c) Biomedical Instrumentation d) Mechatronics
Wednesday, 27.11.2013	<u>Elective I (404205)</u> a) Embedded System Design b) Process Instrumentation c) Adv. D.S.P. d) Advanced Communication Engg. e) Software Engineering	<u>Elective – II (404205)</u> a) Advanced Computer Architecture b) Entrepreneurship and Business Planning c) SOC (System on Chip) d) Robotics and Automation

B.E. (PRODUCTION ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Material & Financial Management (411087)	Computer Integrated Design and Manufacturing (411087)
Wednesday, 13.11.2013	Process Planning & Tools Selection (411088)	Processing Planning and Tool Selection (411088)
Friday, 15.11.2013	CAD/CAM/CIM (411089)	<u>Elective – III(411089)</u> a) Automobile Engineering b) Mechatronics c) Metal Working Tribology d) Finite Element Analysis
Saturday, 16.11.2013	<u>Elective II (411090)</u> a) Robotics b) Ergonomics and Human Factors in Engineering c) Adv. Material Processing d) Adv. Production Tech.	<u>Elective – IV (411090)</u> a)World Class Manufacturing b) Intelligent Manufacturing Systems c) Total Quality Management d) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Production Management(411081)	Machine Tool Design (411081)
Wednesday, 20.11.2013	Machine Tool Design (411082)	Manufacturing Automation (411082)
Friday, 22.11.2013	Manufacturing Automation and Control (411083)	Operations Research (411083)
Monday, 25.11.2013	Operation Research (411084)	<u>Elective – I (411084)</u> a) Plastic Engineering b) Industrial Robotics c) Powder Metallurgy d) Microprocessor Applications
Wednesday, 27.11.2013	<u>Elective I (411185)</u> a) Reliability Engineering b) Powder Metallurgy c) Plant Engg. and Maintenance d) Material Handling Technology & Equipment Design	<u>Elective – II (411085)</u> a) Ergonomics and Human Factors in Engineering b) Material & Logistic Management c) Simulation and Modeling d) Plant Engineering and Maintenance

B.E. (PRODUCTION SANDWICH)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	-----	-----
Wednesday, 13.11.2013	-----	-----
Friday, 15.11.2013	-----	<u>Elective – III (411130)</u> a) Supply Chain Management b) Plant Engineering & Maintenance c) Industrial Relations & Human Resource Management d) Marketing Management
Saturday, 16.11.2013	<u>Elective II (411125)</u> a) Plant Engg. & Facility Layout b) Supply Chain Management c) Industrial & Commercial Law d) Project Management	-----

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Mechatronics & Robotics (411121)	Operations Research & Management (411121)
Wednesday, 20.11.2013	Machine Tool Design (411082)	Mechatronics & Robotics (411122)
Friday, 22.11.2013	Manufacturing Automation and Control (411083)	Advanced Production Technology (411123)
Monday, 25.11.2013	Operation Research & Management (411126)	<u>Elective – I (411124)</u> a) Machine Tool Design b) Automobile Engineering c) Computer Integrated Manufacturing and Industrial Robotics d). Plastic Engineering
Wednesday, 27.11.2013	<u>Elective – I (411122)</u> a) Ergonomics b) Financial Mgt. c) Die & Mould Design d) Adv. Product Technique e) Reliability Engineering	<u>Elective – II (411125)</u> a) Ergonomics and Human Factors in Engineering b) Materials Management & Logistics c) Financial Management & Cost Control d) Product Development

B.E. (INDUSTRIAL ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Flexible Manufacturing System (411108)	Reliability Engineering (411108)
Wednesday, 13.11.2013	Advanced Manufacturing Processes (411109)	Energy Management ((411109)
Friday, 15.11.2013	Energy Management(411110)	<u>Elective – III (411110)</u> a) IE applications in Service Sector b) Supply Chain Management c) Manufacturing Automation d) Process Planning & Manufacturing Engineering
Saturday, 16.11.2013	<u>Elective - II (411111)</u> a) Entrepreneurship Development b) Plastic Engineering c) Industrial & Commercial Laws d) Material Logistic	<u>Elective - IV (411111)</u> a) *** Open Elective b) Plastics Engineering c) Manufacturing Strategies d) Quality Management

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Quantitative Techniques (411101)	Financial Management & Costing (411101)
Wednesday, 20.11.2013	Business Accounting & Costing (411102)	Project Management (411102)
Friday, 22.11.2013	Human Factors Engineering (411103)	Quantitative Techniques (411103)
Monday, 25.11.2013	Logistics Warehousing (411104)	<u>Elective – I (411104)</u> a) Advanced Ergonomics b) Logistics & Warehousing Management c) Material Forming d) Human Resource Management
Wednesday, 27.11.2013	<u>Elective I (411105)</u> a) Supply Chain Mgmt. b) Simulation Modeling & Analysis c) Units Operation d) Project Management	<u>Elective – II (411105)</u> a) Industrial Laws b) World class Manufacturing c) Machine Tool Technology d) Development of Professional Skills

B.E. (PRINTING ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Technology of Grevere & Flexo Graphy. (408288)	Package Design and Technology (408289)
Wednesday, 13.11.2013	Assembly & Maintenance of Printing Machine (408289)	Print Production Planning and Control (408290)
Friday, 15.11.2013	Substrates & Ink Technology (408290)	<u>Elective – III (408287)</u> a) Electronic Publishing b) Printing Machine Maintenance c) Image Conversion & Modification
Saturday, 16.11.2013	<u>Elective - II (408287)</u> a) Study of Materials & Package Design b) Image Conversion & Modification c) Study of Advt. & Multimedia d) Information Technology	<u>Elective – IV (408288)</u> a) Flexible Packaging b) Entrepreneurship in Printing c) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Costing & Estimating & Project Management, Operation Research (408282)	Technology of Gravure (408283)
Wednesday, 20.11.2013	Surface Preparation-II (408283)	Digital Imaging and Printing (408284)
Friday, 22.11.2013	Offset Machine-II (408284)	Advertising and Multimedia (408285)
Monday, 25.11.2013	Electronic Image Setting (408285)	<u>Elective - I (408281)</u> a) Quality Control Techniques in Printing b) Commercial Graphic Design c) Screen Printing Techniques
Wednesday, 27.11.2013	<u>Elective I (408281)</u> a) Newspaper Technology b) Flexible Packaging c) Security Printing	<u>Elective – II (408282)</u> a) Security Printing b) Newspaper Technology c) Open Elective (Self Study)

B.E. (INFORMATION TECHNOLOGY)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	System Operation and Maintenance (414448)	Distributed System (414448)
Wednesday, 13.11.2013	Distributed System (414449)	Information Retrieval (414449)
Friday, 15.11.2013	Information Retrieval (414450)	<u>Elective – III (414450)</u> a) Real Time System b) Software Architecture c) Advanced Graphics d) Advanced Computer Networks
Saturday, 16.11.2013	<u>Elective II (414451)</u> a) Artificial Intelligence b) Software Architecture c) Real Time System d) Embedded System	<u>Elective - IV (414451)</u> a) Bio Informatics b) Neural Network and Expert System c) Geo Informatics Systems d) Open Elective i) Business Intelligence

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Information System Security (414441)	Information Assurance and Security (414441)
Wednesday, 20.11.2013	Advanced Database Management (414442)	Object Oriented Modeling & Design (410443)
Friday, 22.11.2013	Object Oriented Modeling & Design (414443)	Software Testing and Quality Assurance (414442)
Monday, 25.11.2013	Software Testing & Quality Assurance (414444)	<u>Elective – I (414443)</u> a) Advanced Database Management b) Artificial Intelligence c) Computer Design d) Advanced Operating Systems
Wednesday, 27.11.2013	<u>Elective-I (414445)</u> a) Bio-informatics b) Mobile Computing c) GIS & Remote Sensing d) Org. Behavior & Management	<u>Elective – II (414444)</u> a) Embedded System b) Mobile Computing c) Multimedia Systems

B.E. (COMPUTER ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Networks & Information Security (410448)	Distributed Operating Systems (410448)
Wednesday, 13.11.2013	Advanced Computer Architecture & Computing (410449)	Advanced Computer Architecture (410449)
Friday, 15.11.2013	Software Testing & Quality Assurance (410450)	<u>Elective- III (410450)</u> a) Pattern Recognition b) High Performance Networks c) Neural Networks d) Advanced Databases
Saturday, 16.11.2013	<u>Elective - II (410451)</u> a) Distributed System b) Software Architecture c) Embedded System d) High Performance Networks	<u>Elective – IV (410451)</u> a) VLSI & Digital Systems Design b) Operations Research c) Cloud Computing d) Information Security e) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Design & Analysis of Algorithms (410441)	Design & Analysis of Algorithms (410441)
Wednesday, 20.11.2013	Operating Systems (410242)	Principles of Compiler Design (410442)
Friday, 22.11.2013	Object Oriented Modeling & Design (410443)	Object Oriented Modeling & Design (410 443)
Monday, 25.11.2013	Principles of Compiler Design (410444)	<u>Elective – I (410444)</u> a) Image Processing b) Design & Analysis of Computer Networks c) Artificial Intelligence d) Software Architecture
Wednesday, 27.11.2013	<u>Elective- I (410445)</u> a) Image Processing b) Advanced Databases c) Artificial Intelligence d) Multimedia System	<u>Elective – II (410445)</u> a) Multimedia Systems b) Mobile Computing c) Embedded Systems d) Software Testing & Quality Assurance

B.E. (PETROCHEMICAL ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Refinery Process Design (412407)	Refinery Process Design (412408)
Wednesday, 13.11.2013	Natural Gas Technology (412408)	Plant Design and Process Economics (412409)
Friday, 15.11.2013	Process Economics & Project Engineering (412409)	<u>Elective – III(412410)</u> a) Process Modeling and Simulation b) Fine Chemical Industries c) Colloidal and Interface Science d) Renewable Energy Sources
Saturday, 16.11.2013	<u>Elective II (412411)</u> a) Catalysis Technology And Fluidization Engineering b) Biochemical Engineering c) Petroleum Exploration and Production Operation	<u>Elective – IV (412411)</u> a) Petroleum Exploration and Production Operations b) Catalyst Science and Technology c) Polymer Reaction Engineering d) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Refining Operation (412401)	Reaction Engineering – II (412401)
Wednesday, 20.11.2013	Petrochemical Processes (412402)	Process Dynamics and Control (412402)
Friday, 22.11.2013	Reaction Engineering II (412403)	Environmental Engineering (412403)
Monday, 25.11.2013	Process Dynamics & Control (412404)	<u>Elective – I (412404)</u> a) Biochemical Engineering b) Novel Separation Processes c) Elements of Fluidization Engineering d) Green Chemistry
Wednesday, 27.11.2013	<u>Elective I (412405)</u> a) Environmental Engg. b) Novel Separation Process c) Interface and Colloid Science	<u>Elective – II (412405)</u> a) Optimization Techniques for Process Industries b) Emerging feed stocks and Technologies for Petrochemicals c) Natural Gas Technology d) Health, Safety and Environment in Process Industry

B.E. (PETROLEUM ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Reservoir Engineering II (412388)	Improved Oil Recovery and Reservoir Simulation (412387)
Wednesday, 13.11.2013	Petroleum Production Engineering II (412389)	Petroleum Production Engineering – II (412388)
Friday, 15.11.2013	Oil Well Drilling Engineering (412390)	<u>Elective – III (412389)</u> a) Advanced Drilling Engineering b) Deepwater Technology c) Transport of Oil and Gas d) Environment Technology and Safety in Petroleum Industry
Saturday, 16.11.2013	<u>Elective - II (412391)</u> a) Petroleum Economics b) Integrated Reservoir Management c) Deepwater Technology	<u>Elective – IV (412390)</u> a) Petroleum Economics b) Petroleum Production Enhancement and Optimization c) Well Control Methods d) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Reservoir Engineering I (412381)	Reservoir Engineering II (412381)
Wednesday, 20.11.2013	Petroleum Exploration (412382)	Petroleum Formation Evaluation (412382)
Friday, 22.11.2013	Formation Evaluation (412383)	Well Engineering and Design (412383)
Monday, 25.11.2013	Natural Gas Engineering (412384)	<u>Elective – I (412384)</u> a) Petroleum Exploration b) Advanced Instrumentation and Process Control in Petroleum Industry c) Programming Database Management and Information Systems in Petroleum Industry d) Mathematical Methods and Modeling in Petroleum Exploration and Production
Wednesday, 27.11.2013	<u>Elective I (412385)</u> a) Refining and Petrochemical Technology b) Applied Computational Techniques c) Environment Safety & Health in Petroleum Industries	<u>Elective-II (412385)</u> a) Petroleum Refining Technology b) Petroleum Product Analysis c) Non Conventional Hydrocarbon Resources d) Carbon Management in Petroleum Industry

B.E. (CHEMICAL ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Process Modeling & Simulation (409349)	Process Modeling and Simulation (409351)
Wednesday, 13.11.2013	Project Costing & Appraisal (409350)	Process Engineering Costing & Plant Design (409352)
Friday, 15.11.2013	Chemical Plant Engineering (409351)	<u>Elective – III (409349)</u> a) Artificial Intelligence In Chemical Engineering b) Energy Conservation In Chemical Process Industries c) Chemical Process Safety d) Food Technology
Saturday, 16.11.2013	<u>Elective - II (409348)</u> a) Computer Aided process Control b) Food Technology c) Advanced Materials d) Industrial Hazards & Safety e) Piping Design & Engineering f) Fuel Cell Technology g) Petrochemical Engineering	<u>Elective – IV (409350)</u> a) Standardization and Quality Assurance in Chemical Process Industry b) Catalysis c) Nanotechnology d) Fuel Cell Technology e) Petrochemical Engineering f) Computer Aided Process Control g) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Process Dynamics and Control (409342)	Process Dynamics and Control (409343)
Wednesday, 20.11.2013	Chemical Reaction Engg. II (409343)	Chemical Reaction Engineering – II (409344)
Friday, 22.11.2013	Chemical Process Synthesis (409344)	Chemical Engineering Design – II (409345)
Monday, 25.11.2013	Process Equipment Design II (409345)	<u>Elective – I (409341)</u> a) Environmental Engineering b) Membrane Technology c) Bioprocess Engineering d) Corrosion Engineering
Wednesday, 27.11.2013	<u>Elective I (409341)</u> a) Environmental Engg. b) Bioprocess Engg. c) Energy Conservation d) Polymer Technology e) Catalysts g) Adv. Separation Processes h) Petroleum Refining	<u>Elective – II (409342)</u> a) Chemical Process Synthesis b) Advanced Materials c) Polymer Technology d) Piping Design & Engineering e) Advanced Separation Processes f) Petroleum Refining

B.E. (POLYMER ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Product Design & Computer Application (404368)	Product Design & Polymer Testing (409368)
Wednesday, 13.11.2013	Polymer Processing Operations II (409369)	Mold & Die Design – II (409369)
Friday, 15.11.2013	Industrial Management & Process Economics (409370)	<u>Elective – III (409370)</u> a) Polymer Physics and Characterization b) Processing of Composites c) Specialty Polymers & Applications
Saturday, 16.11.2013	<u>Elective - II (409367)</u> a) Specialty Polymer b) Fiber Technology c) Mechanics of Composites d) Packing Technology	<u>Elective – IV (409371)</u> a) Advanced Polymer Rheology b) Rubber Technology c) Polymer Thermodynamics and Bends d) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Polymer Structure & Property Relationship (409361)	Polymer Compounding (409361)
Wednesday, 20.11.2013	Polymer Processing Operations I (409362)	Mold & Die Design – I (409362)
Friday, 22.11.2013	Polymer Composites & Blends (404363)	Polymer Processing Operation – II (409363)
Monday, 25.11.2013	Mould & Die Design (409364) *(2.30 p.m. to 6.30 p.m.)	<u>Elective – I (409364)</u> a) Fiber Technology b) Mechanics of Composites c) Polymer Reaction Engineering
Wednesday, 27.11.2013	<u>Elective - I (409366)</u> a) Polymer Reaction Engg. b) Rubber Technology c) Surface Coating and Adhesive d) Advanced Polymer Rheology	<u>Elective – II (409365)</u> a) Production Planning and Control b) Surface Coating and Adhesives c) Packaging Technology

* Please note the Timing

B.E. (INSTRUMENTATION & CONTROL ENGINEERING)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Process Instrumentation – II (406267)	Process Dynamics and Control (406267)
Wednesday, 13.11.2013	Computer Technology & Application (406268)	Industrial Automation (406268)
Friday, 15.11.2013	Industrial Automation (406269)	<u>Elective – III (406269)</u> a) Advanced Biomedical Instrumentation b) Fiber Optic Instrumentation c) Process Modeling and Optimization d) Building Automation - II
Saturday, 16.11.2013	<u>Elective – II (406270)</u> a) Adv. Biomedical Instrumentation b) Power Plant Instrumentation c) Fiber Optic Instrumentation d) Process Modeling & Optimization e) Building Automation – II	<u>Elective – IV (406270)</u> a) Instrumentation in Agriculture b) Micro Electro Mechanical Systems c) Digital Image Processing d) Open Elective

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Process Instrumentation – I (406261)	Process Instrumentation (406261)
Wednesday, 20.11.2013	Project Engineering & Management (406262)	Digital Control (406262)
Friday, 22.11.2013	Digital Control (406263)	Project Engineering and Management (406263)
Monday, 25.11.2013	-----	<u>Elective – I (406264)</u> a) Biomedical Instrumentation b) Laser based Instrumentation c) Advanced Control Systems d) Building Automation – I
Wednesday, 27.11.2013	<u>Elective I (406264)</u> a) Biomedical Instrumentation b) Instrumentation for Environmental Engineering c) Laser Application in Instrumentation d) Advanced Control System e) Building Automation – I	<u>Elective – II (406265)</u> a) Environmental Instrumentation b) Nano Instrumentation c) Advanced Digital Signal Processing d) Automobile Instrumentation

B.E. (BIOTECHNOLOGY)

Time – 2.30 to 5.30 p.m.

SEMESTER – II

Day & Date	2003 Course	2008 Course
Tuesday, 12.11.2013	Analytical Biotechnology (416287)	Bioprocess Modeling and Simulation (415469)
Wednesday, 13.11.2013	Bioinformatics and Regulations (416288)	Plant Engineering & Project Costing (415470)
Friday, 15.11.2013	Plant Engineering (409289)	<u>Elective – III (415467)</u> a) Food Biotechnology b) Agricultural Biotechnology c) Introduction to Systems Biology
Saturday, 16.11.2013	<u>Elective II (416286)</u> a) Biomaterials b) Food Technology c) Nano Biotechnology d) Biothicks & Biosafety	<u>Elective – IV (415468)</u> a) Management and Entrepreneurship b) IPR, Bioethics and Regulations c) Industrial Organization and Management

SEMESTER – I

Day & Date	2003 Course	2008 Course
Monday, 18.11.2013	Enzyme and Fermentation Engineering (416282)	Bioseparation II (415463)
Wednesday, 20.11.2013	Chemical Reaction Engineering – II (409343)	Instrumentation and Process Control (415464)
Friday, 22.11.2013	Bioprocess Equipment Design (416283)	Bioprocess Equipment Design (415465)
Monday, 25.11.2013	Novel Separation Techniques (416284)	<u>Elective – I (415461)</u> a) Environmental Biotechnology b) Chemoinformatics and Structural Biology c) Bio-therapeutics Technology
Wednesday, 27.11.2013	<u>Elective I (416281)</u> a) Pharmaceutical Biotechnology b) Environmental Biotechnology c) Cosmetic Biotechnology d) Metabolic Engineering	<u>Elective – II (415462)</u> a) Bioenergy and Renewable Resources b) Biomaterials c) Stem Cell Biology and Regenerative Medicine

B.E. (AUTOMOBILE ENGINEERING)**Time: 2.30 p.m. to 5.30 p.m.****SEMESTER – II**

Day & Date	Automobile Engineering (2008 Course)
Tuesday, 12.11.2013	Alternative Fuels and Emission Control (416495)
Wednesday, 13.11.2013	Vehicle Performance and Testing (416496)
Friday, 15.11.2013	<u>Elective – III (416497)</u> a) Computational Fluid Dynamics b) Finite Element Analysis c) Hydraulics and Pneumatics d) Product Development and Costing
Saturday, 16.11.2013	<u>Elective – IV (416498)</u> a) Transport Management and Motor Industry b) Energy Engineering and Management c) Hybrid, Electric and Fuel-cell Vehicles d) Open Elective

SEMESTER – I

Day & Date	Automobile Engineering (2008 Course)
Monday, 18.11.2013	Automotive Refrigeration and Air Conditioning (416488)
Wednesday, 20.11.2013	Machine and Vehicle Dynamics (416489)
Friday, 22.11.2013	Automotive System Design (416490)
Monday, 25.11.2013	<u>Elective – I (416491)</u> a) Automotive Aerodynamics and Styling b) Tribology c) CAD-CAM and Automation d) Automotive NVH
Wednesday, 27.11.2013	<u>Elective – II (416492)</u> a) Automotive Materials b) Vehicle Safety c) Off Road Vehicles d) Auxiliary Engine Systems

11. The Practical/Oral/Project Examination will be conducted from 15.10.2013 to 31-10-2013.
12. Candidates are permitted to use the stencils at the time of examination.
13. Candidates appearing for the examination are expected to provide themselves with slide-rules. The exchange or loan of slide-rules, drawing instrument or other material in the examination hall is not permitted while the examination is in progress. Candidates must bring their own instruments and will not be allowed to borrow the same from each other under any circumstances.
14. Use of non-programmable battery operated electronic calculator of pocket size is allowed. The exchange of calculator is not allowed.
15. This is the last chance for 2003 course.

Ganeshkhind, Pune-411007
Ref. / XCT /951
Date: 21/10/2013

Dr.Sampada Joshi
Controller of Examinations