### **UNIVERSITY OF PUNE**



Examination Circular No. 35 of 2014 Programme of B.E. 2008 course (All Branches) Examinations, May, 2014

#### 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) except following two colleges.
  - 1. Anantrao Pawar College of Engineering, Parvati, Pune
  - 2. Sharadchandra Pawar College of Engineering, Dumbarwadi, Otur, Dist. Pune
- 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:

#### **B.E.** (CIVIL)

#### Time -2.30 to 5.30 p.m.

### $\underline{SEMESTER-I}$

Day & Date	2008 Course
Tuesday	Environmental Engineering – II (401001)
06/05/2014	
Thursday	Dams and Hydraulic Structures (401002)
08/05/2014	
Saturday	Structure Design – III (401003)
10/05/2014	*(2:30 p.m. to 6:30 p.m.)
Tuesday	Elective – I (401004)
13/05/2014	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
Friday	<b>Elective – II</b> (401005)
16/05/2014	a) Matrix Methods of Structural Analysis
	b) Hydroinformatics
	c) TQM & MIS in Civil Engineering
	d) Earthquake Engineering
	e) Advanced concrete Technology

Day & Date	2008 Course
Monday	Quantity Surveying Contracts and Tenders (401009)
19/05/2014	
Wednesday	Transportation Engineering – II (401010)
21/05/2014	
Friday	Elective – III ( 401007)
23/05/2014	a) Advanced Structural Design
	b) Advanced Foundation Engineering
	c) Advanced Engineering Geology with Rock Mechanics
	d) Advanced Environmental Management
	e) Construction Management
Monday	Elective – IV ( 401008)
26/05/2014	a) Integrated Water Resources and Planning
	b) Advaced Transportation Engineering
	c) Statistical Analysis And Computational Methods in Civil Engg.
	<b>Open Elective (401008)</b>
	a) Finite Element Method in Civil Engg.
	b) Geoinformatics
	c) Hydropower Engineering
	d) Industrial Waste Water Management
	e) Mechanics of Waves
	f) Plumbing Engineering
	g) Ferrocement Technology
	h) Green Building Technology

### **B.E.** (MECHANICAL)

Time – 2.30 to 5.30 p.m.

### $\underline{SEMESTER-I}$

Day & Date	2008 Course
Tuesday	CAD/CAM Automation (402041)
06/05/2014	
Thursday	Dynamics of Machinery (402042)
08/05/2014	
Saturday	Industrial Fluid Power (402043)
10/05/2014	
Tuesday	<b>Elective</b> – I (402044)
13/05/2014	a) Energy Audit and Management
	b) Product Design and Development
	c) Design of Pumps, Blowers and Compressors
	d) Tribology
Friday	<b>Elective – II</b> (402045)
16/05/2014	a) Automobile Engineering
	b) Machine Tool Design
	c) Quantitative and decision making Techniques

Day & Date	2008 Course
Monday	Power Plant Engineering (402047)
19/05/2014	
Wednesday	Mechanical System Design ( 402048 )
21/05/2014	*(2.30 p.m. to 6.30 p.m.)
Friday	Elective – III ( 402049)
23/05/2014	a) Computational Fluid Dynamics
	b) Finite Element Method
	c) Robotics
	d) Advanced Air Conditioning and Refrigeration
Monday	<u>Elective – IV (402050)</u>
26/05/2014	a) Industrial Heat Transfer Equipments
	b) Management Information System
	c) Reliability Engineering
	d) Open Elective
	i) Cryogenic Engineering
	ii) Product Lifecycle Management
	iii) Industrial Automation

#### **B.E.** (MECHANICAL SANDWICH)

Time – 2.30 to 5.30 p.m.

### $\underline{SEMESTER-I}$

Day & Date	2008 Course
Tuesday	Machine & Computer Aided Design
06/05/2014	( 402061) *( <b>2.30 p.m. to 6.30 p.m.</b> )
Thursday	Dynamics of Machinery (402042)
08/05/2014	(Common to Mechanical)
Saturday	Industrial Hydraulics & Pneumatics (402062)
10/05/2014	
Tuesday	<b>Elective – II ( 402063)</b>
13/05/2014	a) Refrigeration & Air Conditioning
	b) Computational Fluid Dynamics
	c) Finite Element Method
Friday	<u>Elective – III(402064)</u>
16/05/2014	a) Automobile Engineering
	b) Operations Research
	c) Robotics

Day & Date	2008 Course
Monday	
19/05/2014	
Wednesday	
21/05/2014	
Friday	
23/05/2014	
Monday	<b>Elective – IV (402066)</b>
26/05/2014	a) Costing & Cost Control
	b) Machine Tool Design
	c) Energy Management & Industrial Pollution

#### **B.E.** (ELECTRICAL)

# Time - 2.30 to 5.30 p.m. $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	PLC and SCADA Applications (403141)
06/05/2014	
Thursday	Power System Operation and Control (403142)
08/05/2014	
Saturday	Control System – II (403145)
10/05/2014	
Tuesday	Elective – I ( 403143)
13/05/2014	a) Robotics and Automation
	b) Power Quality
	c) Illumination Engineering
	d) Project Management
Friday	<b>Elective – II</b> (403144)
16/05/2014	a) Restructuring and Deregulation
	b) Embedded System
	c) EHV Transmission
	d) Smart Grid

Day & Date	2008 Course
Monday	Switchgear and Protection (403147)
19/05/2014	
Wednesday	Industrial Drives and Control (403148)
21/05/2014	
Friday	Elective – III ( 403149)
23/05/2014	a) VLSI Design
	b) High Voltage Engineering
	c) Digital Signal Processing
	d) ANN and its Applications in Electrical Engineering
Monday	<u>Elective – IV (403150)</u>
26/05/2014	a) Modeling of Electrical System
	b) Renewable Energy System
	c) Digital Control System

#### **B.E.** (ELECTRONICS & TELECOMMUNICATIOINS)

## $Time - 2.30 \ to \ 5.30 \ p.m.$ $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Electronics Product Design (404181)
06/05/2014	
Thursday	VLSI Design & Technology (404182)
08/05/2014	
Saturday	Computer Network (404183)
10/05/2014	
Tuesday	Elective – I (404184)
13/05/2014	a) Digital Image Processing
	b) Embedded System and RTOS
	c) Industrial Drives Control
	d) Microwave Communication and Radar
Friday	<u>Elective – II -( 404185 )</u>
16/05/2014	a) Entrepreneurship Development
	b) Joint Time Frequency Analysis
	c) Micro-electromechanical and system on chip(MEMS and SOC)
	d) Mobile Communication

Day & Date	2008 Course
Monday	Telecommunication & Switching System
19/05/2014	( 404187)
Wednesday 21/05/2014	Optical Fiber Communication (404188)
Friday	Elective – III ( 404189)
23/05/2014	a) Soft Computing
	b) Speech Processing
	c) Television and Video Engineering
	d) Test and Measurement Systems
Monday	Elective – IV ( 404190)
26/05/2014	a) Artificial Intelligence
	b) Automotive Electronics
	c) Nanotechnology
	d) PLC and Industrial Process Automation
	Open Elective:
	a) Advanced Satellite System & Application
	b) Advanced Trends in Telecommunication
	c) Programable System of Chip

#### **B.E.** (ELECTRONICS)

# $Time-2.30 \ to \ 5.30 \ p.m. \\ \underline{SEMESTER-I}$

Day & Date	2008 Course
Tuesday	Electronics System Design (404201)
06/05/2014	
Thursday	VLSI Design (404202)
08/05/2014	
Saturday	Embedded System (404203
10/05/2014	
Tuesday	Elective – I ( 404204)
13/05/2014	a) Advanced Measurement Systems
	b) Advanced Power Electronics
	c) Biomedical Instrumentation
	d) Mechatronics
Friday	<u>Elective – II (404205)</u>
16/05/2014	a) Advanced Computer Architecture
	b) Entrepreneurship and Business Planning
	c) SOC (System on Chip)
	d) Robotics and Automation

Day & Date	2008 Course
Monday	Computer Network & Security (404207)
19/05/2014	
Wednesday	Process Automation (404208)
21/05/2014	
Friday	Elective – III (404209)
23/05/2014	a) Audio and Video Engineering
	b) Image Processing and Machine Vision
	c) Optical and Microwave Communication
	d) Soft Computing Tools
Monday	<b>Elective – IV (404210)</b>
26/05/2014	a) Advanced Communication System
	b) Automotive Electronic Systems
	c) Artificial Intelligence
	d) Nanotechnology in Electronics
	e) Open Elective:

#### **B.E.** (PRODUCTION ENGINEERING)

# Time - 2.30 to 5.30 p.m. $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Machine Tool Design (411081)
06/05/2014	
Thursday	Manufacturing Automation (411082)
08/05/2014	
Saturday	Operations Research (411083)
10/05/2014	
Tuesday	Elective – I (411084)
13/05/2014	a) Plastic Engineering
	b) Industrial Robotics
	c) Powder Metallurgy
	d) Microprocessor Applications
Friday	<b>Elective – II (411085)</b>
16/05/2014	a) Ergonomics and Human Factors in Engineering
	b) Material & Logistic Management
	c) Simulatiion and Modelling
	d) Plant Engineering and Maintenance

Day & Date	2008 Course
Monday	Computer Integrated Design and Manufacturing (411087)
19/05/2014	
Wednesday	Processing Planning and Tool Selection (411088)
21/05/2014	
Friday	Elective – III( 411089)
23/05/2014	a) Automobile Engineering
	b) Mechatronics
	c) Metal Working Tribology
	d) Finite Element Analysis
Monday	<u>Elective – IV (411090)</u>
26/05/2014	a) World Class Manufacturing
	b) Intelligent Manufacturing Systems
	c) Total Quality Management
	d )Open Elective

#### **B.E.** (PRODUCTION SANDWICH)

#### Time – 2.30 to 5.30 p.m. <u>SEMESTER – I</u>

Day & Date	2008 Course
Tuesday	Operations Research & Management
06/05/2014	(411121)
Thursday	Mechatronics & Robotics (411122)
08/05/2014	
Saturday	Advanced Production Technology (411123)
10/05/2014	
Tuesday	Elective – I (411124)
13/05/2014	a) Machine Tool Design
	b) Automobile Engineering
	c) Computer Integrated Manufacturing and Industrial Robotics
	d). Plastic Engineering
Friday	Elective – II (411125)
16/05/2014	a) Ergonomics and Human Factors in Engineering
	b) Materials Management & Logistics
	c) Financial Management & Cost Control
	d) Product Development

Day & Date	2008 Course
Monday	
19/05/2014	
Wednesday	
21/05/2014	
Friday	Elective – III (411130)
23/05/2014	a) Supply Chain Management
	b) Plant Engineering & Maintenance
	c) Industrial Relations & Human Resource Management
	d) Marketing Management
Monday	
26/05/2014	

#### **B.E.** (INDUSTRIAL ENGINEERING)

# Time - 2.30 to 5.30 p.m. $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Financial Management & Costing (411101)
06/05/2014	
Thursday	Project Management (411102)
08/05/2014	
Saturday	Quantitative Techniques (411103)
10/05/2014	
Tuesday	Elective – I (411104)
13/05/2014	a) Advanced Ergonomics
	b) Logistics & Warehousing Management
	c) Material Forming
	d) Human Resource Management
Friday	Elective – II (411105)
16/05/2014	a) Industrial Laws
	b) World class Manufacturing
	c) Machine Tool Technology
	d) Development of Professional Skills

Day & Date	2008 Course
Monday	Reliability Engineering (411108)
19/05/2014	
Wednesday	Energy Management ((411109)
21/05/2014	
Friday	<b>Elective – III</b> ( 411110)
23/05/2014	a) IE applications in Service Sector
	b) Supply Chain Management
	c) Manufacturing Automation
	d) Process Planning & Manufacturing Engineering
Monday	<b>Elective - IV (411111)</b>
26/05/2014	a) *** Open Elective
	b) Plastics Engineering
	c) Manufacturing Strategies
	d) Quality Management

#### **B.E.** (PRINTING ENGINEERING)

#### Time – 2.30 to 5.30 p.m. <u>SEMESTER – I</u>

Day & Date	2008 Course
Tuesday	Technology of Gravure (408283)
06/05/2014	
Thursday	Digital Imaging and Printing (408284)
08/05/2014	
Saturday	Advertising and Multimedia (408285)
10/05/2014	
Tuesday	<b>Elective - I</b> (408281)
13/05/2014	a) Quality Control Techniques in Printing
	b) Commercial Graphic Design
	c) Screen Printing Techniques
Friday	Elective – II ( 408282)
16/05/2014	a) Security Printing
10/03/2014	b) Newspaper Technology
	c) Open Elective (Self Study)
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Day & Date	2008 Course
Monday	Package Design and Technology (408289)
19/05/2014	
Wednesday	Print Production Planning and Control
21/05/2014	(408290)
Friday	<b>Elective – III</b> (408287)
23/05/2014	a) Electronic Publishing
	b) Printing Machine Maintenance
	c) Image Conversion & Modification
Monday	<u>Elective – IV (408288)</u>
26/05/2014	a) Flexible Packaging
	b) Entrepreneurship in Printing
	c) Open Elective

#### **B.E.** (INFORMATION TECHNOLOGY)

## Time - 2.30 to 5.30 p.m. $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Information Assurance and Security
06/05/2014	(414441)
Thursday	Object Oriented Modeling & Design
08/05/2014	(410 443)
Saturday	Software Testing and Quality Assurance (414442)
10/05/2014	
Tuesday	Elective – I (414443)
13/05/2014	a) Advanced Database Management
	b) Artificial Intelligence
	c) Computer Design
	d) Advanced Operating Systems
Friday	<b>Elective – II</b> (414444)
16/05/2014	a) Embedded System
	b) Mobile Computing
	c) Multimedia Systems

### $\underline{SEMESTER-II}$

Day & Date	2008 Course
Monday	Distributed System (414448)
19/05/2014	
Wednesday	Information Retrieval (414449)
21/05/2014	
Friday	Elective – III (414450)
23/05/2014	a) Real Time System
	b) Software Architecture
	c) Advanced Graphics
	d) Advanced Computer Networks
Monday	Elective - IV (414451)
26/05/2014	a) Bio Informatics
	b) Neural Network and Expert System
	c) Geo Informatics Systems
	d) Open Elective
	i) Business Intelligence

#### **B.E.** (COMPUTER ENGINEERING)

# Time - 2.30 to 5.30 p.m. $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Design & Analysis of Algorithms (410441)
06/05/2014	
Thursday	Principles of Compiler Design (410442)
08/05/2014	
Saturday	Object Oriented Modeling & Design (410 443)
10/05/2014	
Tuesday	Elective – I (410444)
13/05/2014	a) Image Processing
	b) Design & Analysis of Computer Networks
	c) Artificial Intelligence
	d) Software Architecture
Friday	<b>Elective – II</b> (410445)
16/05/2014	a) Multimedia Systems
	b) Mobile Computing
	c) Embedded Systems
	d) Software Testing & Quality Assurance

Day & Date	2008 Course
Monday	Distributed Operating Systems ( 410448 )
19/05/2014	
Wednesday	Advanced Computer Architecture
21/05/2014	(410449)
Friday	Elective- III ( 410450)
23/05/2014	a) Pattern Recognition
	b) High Performance Networks
	c) Neural Networks
	d) Advanced Databases
Monday	<b>Elective – IV (410451)</b>
26/05/2014	a) VLSI & Digital Systems Design
	b) Operations Research
	c) Cloud Computing
	d) Information Security
	e) Open Elective

#### **B.E.** (PETROCHEMICAL ENGINEERING)

# Time - 2.30 to 5.30 p.m. $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Reaction Engineering – II ( 412401)
06/05/2014	
Thursday	Process Dynamics and Control (412402)
08/05/2014	
Saturday	Environmental Engineering (412403)
10/05/2014	
Tuesday	Elective – I (412404)
13/05/2014	a) Biochemical Engineering
	b) Novel Separation Processes
	c) Elements of Fluidization Engineering
	d) Green Chemistry
Friday	<b>Elective – II</b> (412405)
16/05/2014	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

Day & Date	2008 Course
Monday	Refinery Process Design (412408)
19/05/2014	
Wednesday	Plant Design and Process Economics
21/05/2014	(412409)
Friday	<b>Elective – III(412410)</b>
23/05/2014	a) Process Modeling and Simulation
	b) Fine Chemical Industries
	c) Colloidal and Interface Science
	d) Renewable Energy Sources
Monday	<u>Elective – IV (412411)</u>
26/05/2014	a) Petroleum Exploration and Production Operations
	b) Catalyst Science and Technology
	c) Polymer Reaction Engineering
	d) Open Elective

#### **B.E.** (PETROLEUM ENGINEERING)

# $Time - 2.30 \ to \ 5.30 \ p.m.$ $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Reservoir Engineering II (412381)
06/05/2014	
Thursday	Petroleum Formation Evaluation
08/05/2014	(412382)
Saturday	Well Engineering and Design
10/05/2014	(412383)
Tuesday	<u>Elective – I (412384)</u>
13/05/2014	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
Friday	Elective-II (412385)
16/05/2014	a) Petroleum Refining Technology
	b) Petroleum Product Analysis
	c) Non Conventional Hydrocarbon Resources
	d) Carbon Management in Petroleum Industry

### $\underline{SEMESTER-II}$

Day & Date	2008 Course
Monday	Improved Oil Recovery and Reservoir Simulation (412387)
19/05/2014	
Wednesday	Petroleum Production Engineering – II (412388)
21/05/2014	
Friday	Elective – III ( 412389)
23/05/2014	a) Advanced Drilling Engineering
	b) Deepwater Technology
	c) Transport of Oil and Gas
	d) Environment Technology and Safety in Petroleum Industry
Monday	<u>Elective – IV ( 412390)</u>
26/05/2014	a) Petroleum Economics
	b) Petroleum Production Enhancement and Optimization
	c) Well Control Methods
	d) Open Elective

#### **B.E.** (CHEMICAL ENGINEERING)

## $Time - 2.30 \ to \ 5.30 \ p.m.$ $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Process Dynamics and Control (409343)
06/05/2014	
Thursday	Chemical Reaction Engineering – II (409344)
08/05/2014	
Saturday	Chemical Engineering Design – II
10/05/2014	(409345)
Tuesday	Elective – I (409341)
13/05/2014	a) Environmental Engineering
	b) Membrane Technology
	c) Bioprocess Engineering
	d) Corrosion Engineering
Emidore	Floative II (400242)
Friday	Elective – II (409342) a) Chemical Process Synthesis
16/05/2014	b) Advanced Materials
	c) Polymer Technology
	d) Piping Design & Engineering
	e) Advanced Separation Processes
	f) Petroleum Refining

Day & Date	2008 Course
Monday	Process Modeling and Simulation (409351)
19/05/2014	
Wednesday	Process Engineering Costing & Plant Design (409352)
21/05/2014	
Friday	Elective – III ( 409349)
23/05/2014	a) Artificial Intelligence In Chemical Engineering
	b) Energy Conservation In Chemical Process Industries
	c) Chemical Process Safety
	d) Food Technology
Monday	Elective – IV ( 409350)
26/05/2014	a) Standardization and Quality Assurance in Chemical ProcessIndustry
	b) Catalysis
	c) Nanotechnology
	d) Fuel Cell Technology
	e) Petrochemical Engineering
	f) Computer Aided Process Control
	g) Open Elective

#### **B.E.** (POLYMER ENGINEERING)

#### Time – 2.30 to 5.30 p.m. <u>SEMESTER – I</u>

Day & Date	2008 Course
Tuesday	Polymer Compounding (409361)
06/05/2014	
Thursday	Mold & Die Design – I (409362)
08/05/2014	
Saturday	Polymer Processing Operation – II
10/05/2014	(409363)
Tuesday	<b>Elective – I</b> (409364)
13/05/2014	a) Fiber Technology
	b) Mechanics of Composites
	c) Polymer Reaction Engineering
Friday	<u>Elective – II (409365)</u>
16/05/2014	a) Production Planning and Control
	b) Surface Coating and Adhensives
	c) Packaging Technology

Day & Date	2008 Course
Monday	Product Design & Polymer Testing
19/05/2014	(409368)
Wednesday	Mold & Die Design – II (409369)
21/05/2014	
Friday	Elective – III ( 409370)
23/05/2014	a) Polymer Physics and Characterization
	b) Processing of Composites
	c) Specialty Polymers & Applications
Monday	Elective – IV (409371)
26/05/2014	a) Advanced Polymer Rhenology
	b) Rubber Technology
	c) Polymer Thermodynamics and Bends
	d) Open Elective

#### **B.E.** (INSTRUMENTATION & CONTROL ENGINEERING)

# Time - 2.30 to 5.30 p.m. $\underline{SEMESTER - I}$

Day & Date	2008 Course
Tuesday	Process Instrumentation (406261)
06/05/2014	
Thursday	Digital Control (406262)
08/05/2014	
Saturday	Project Engineering and Management
10/05/2014	(406263)
Tuesday	<u>Elective – I (406264)</u>
13/05/2014	a) Biomedical Instrumentation
	b) Laser based Instrumentation
	c) Advanced Control Systems
	d) Building Automation – I
Friday	<u>Elective – II (406265)</u>
16/05/2014	a) Environmental Instrumentation
	b) Nano Instrumentation
	c) Advanced Digital Signal Processing
	d) Automobile Instrumentation

### $\underline{SEMESTER-II}$

Day & Date	2008 Course
Monday	Process Dynamics and Control
19/05/2014	(406267)
Wednesday	Industrial Automation (406268)
21/05/2014	
Friday	Elective – III ( 406269)
23/05/2014	a) Advanced Biomedical Instrumentation
	b) Fiber Optic Instrumentation
	c) Process Modeling and Optimization
	d) Building Automation - II
Monday	<u>Elective – IV (406270)</u>
26/05/2014	a) Instrumentation in Agriculture
	b) Micro Electro Mechanical Systems
	c) Digital Image Processing
	d) Open Elective

#### **B.E.** (**BIOTECHNOLOGY**)

#### Time – 2.30 to 5.30 p.m. <u>SEMESTER – I</u>

Day & Date	2008 Course
Tuesday	Bioseparation II (415463)
06/05/2014	
Thursday	Instrumentation and Process Control
08/05/2014	(415464)
Saturday	Bioprocess Equipment Design (415465)
10/05/2014	
Tuesday	<u>Elective – I (415461)</u>
13/05/2014	a) Environmental Biotechnology
	b) Chemoinformatics and Structural Biology
	c) Bio-therapeutics Technology
Friday	<b>Elective – II</b> (415462)
16/05/2014	a) Bioenergy and Renewable Resources
	b) Biomaterials
	c) Stem Cell Biology and Regenerative Medicine

Day & Date	2008 Course
Monday	Bioprocess Modeling and Simulation (415469)
19/05/2014	
Wednesday	Plant Engineering & Project Costing (415470)
21/05/2014	
Friday	Elective – III ( 415467)
23/05/2014	a) Food Biotechnology
	b) Agricultural Biotechnology
	c) Introduction to Systems Biology
Monday	Elective – IV (415468)
26/05/2014	a) Management and Entrepreneurship
	b) IPR, Bioethics and Regulations
	c) Industrial Organization and Management

# **B.E.** (AUTOMOBILE ENGINEERING) Time: 2.30 p.m. to 5.30 p.m.

#### SEMESTER - I

Day & Date	Automobile Engineering (2008 Course)
Tuesday	Automotive Refrigeration and Air Conditioning (416488)
06/05/2014	
Thursday	Machine and Vehicle Dynamics (416489)
08/05/2014	
Saturday	Automotives System Design (416490)
10/05/2014	
Tuesday	Elective – I
13/05/2014	1. Automotive Aerodynamics and Styling (416491A)
	2. Tribology (416491B)
	3. CAD-CAM and Automation (416491C)
	4. Automotive NVH (416491D)
Friday	Elective – II
16/05/2014	1. Automotive Materials (416492A)
	2. Vehicle Safety (416492B)
	3. Off Road Vehicles (416492C)
	4. Auxilliary Engine Systems (416492D)

### $\underline{SEMESTER-II}$

Day & Date	Automobile Engineering (2008 Course)
Monday 19/05/2014	Alternative Fuels and Emission Control (416494)
Wednesday 21/05/2014	Vehicle Performance and Testing (416495)
Friday 23/05/2014	Elective – III  1. Computational Fluid Dynamics (416497A)  2. Finite Element Analysis (416497B)  3. Hydraulics and Pneumatics (416497C)  4. Product Development and Costing (416497D)
Monday 26/05/2014	Elective – IV  1. Transport Management and Motor Industry (416498A)  2. Energy Engineering and Management (416498B)  3. Hybrid, Electric and Fuel Cell Vehicles (416498C)  4. Open Electives

- 11. The Practical/Oral/Project Examination will be conducted from 10.04.2014 to 29-04-2014.
- 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.

Ganeshkhind, Pune-411007

Ref. / XCT / 162 Date: 08/03/2014 Dr.Sampada Joshi Controller of Examinations