NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA

Programme for B.Tech./ M.Tech. Dual/ I.Msc./ M.Sc./ MA/ MBA/ M.Tech.

MID SEMESTER EXAMINATION (2013-2014)   19-SEP-2013

Day 1 : *Date / Day of Examination : 23-SEP-2013 (Monday)*

SI.No	Subject Code	Subject Name
	FIRST SESSION (8.30 A.M. To 10.30 A.M.)	
1	BM403	Biomedical Engineering
2	BM611	Biomedical Signal Processing And Analysis
3	BM643	Advanced Protien Engineering
4	CE100	Engineering Mechanics
5	CE130	Environment and Safety Engineering
6	CE403	Optimization Methods in Engineering
7	CH439	Non-Traditional Optimization Techniques
8	CH611	Advanced Fluid Dynamics
9	CR419	Biomaterials for Artificial Implants
10	CR653	Manufacturing Technology of Electroceramics
11	CS343	Digital Logic Design
12	CS448	Artificial Intelligence & Neural Network
13	CS630	Artificial Intelligence
14	CS631	Information Theory and Coding
15	CS652	Software Architecture
16	EC200	Fundamentals of Communication Systems
17	EC340	Fundamentals of Digital Signal Processing
18	EC440	Soft Computing Techniques
19	EC450	Fundamentals of Digital Image Processing
20	EC616	Microwave Engineering
21	EC623	HDL and High Level VLSI Design
22	EE209	Network Analysis
23	EE309	Power Generation Systems
24	HS311	Communicative English.
25	HS341	Managerial Economics
26	HS428	Psychometrics
27	HS538	Urban Governance and Development
28	ID220	Fundamentals of Computer Graphics and Solid Modelig
29	MA427	Elementary Number Theory
30	ME311	Composite Material
31	ME430	Industrial Management
32	MN206	Introductory Mining Technology
33	PH321	Physics of Semiconducting Materials

SI.No	Subject Code	Subject Name
	SECOND SESSION (1.30 P.M. To 3.30 P.M.)	
1	BM317	Fundamentals of Tissue Engineering
2	BM443	Introduction to Biotechnology
3	CE303	Remote Sensing and Geographical Information System
4	CE611	Advanced Structural Analysis
5	CE621	Advanced Soil Mechanics
6	CE651	Hydrologic Element and Analysis
7	CE663	Mass Transit Systems
8	CH229	Basic Chemical Engineering
9	CH329	Process Plant Safety
10	CR219	Introduction to Ceramics
11	CS212	Object Oriented Programming and Web Application Using C#
12	CY413	Spectroscopic Methods of Analysis
13	CY431	Chemistry of Nanomaterials
14	EC633	P. C. Based Instrumentation
15	EC655	Transform Domain Signal Processing
16	EE621	Power Electronic Converters and Machine Drives
17	EE629	Digital Control
18	EE641	Digital Communication
19	HS317	Introduction to the Structure of Mordern English
20	HS328	Sports Psychology
21	HS420	Human Resource Management.
22	ID611	Advanced Product Design and Development
23	LS406	Fundamentals of cell biology
24	MA311	Linear Algebra
25	MA424	Operations Research
26	ME231	Total Quality Management
27	ME417	Control System Engineering
28	ME610	Analysis and Synthesis of Mechanism
29	ME634	Metal Cutting and Tool Design
30	ME651	Advanced Fluid Mechanics
31	MM317	Materials Technology
32	MM325	Iron Making and Steel Making

Day 2 : *Date / Day of Examination : 24-SEP-2013 (Tuesday)*

FIRST SESSION (8.30 A.M. To 10.30 A.M.)		
Sl.No	Subject Code	Subject Name
1	BM321	Biomaterials
2	BM341	Genetic Engineering
3	BM601	Quantitative Physiology
4	BM627	Cryo-Tissue Engineering
5	CE321	Mechanics of Soil
6	CE601	Material Technology
7	CE623	Soil-Structure Interaction
8	CE641	Transportation Systems Planning
9	CE653	Advanced Fluid Mechanics
10	CH615	Advanced Heat Transfer
11	CR341	Physical Ceramics
12	CR663	Testing and Ceramic Characterization
13	CS331	Theory of Computation
14	CS614	Software Project, Process and Quality Management
15	CY521	Principles of Inorganic Chemistry
16	EC341	Digital Signal Processing
17	EC611	Digital Communication
18	EC620	MCS VLSI
19	EE311	Transmission and Distribution of Electric Power
20	HS522	Social Psychology and its Applications
21	ID341	Manufacturing Processes
22	LS402	Biochemistry
23	MA101	Mathematics - I
24	MA405	Partial Differential Equations
25	ME333	Process Control and Assurance Science
26	MN321	Rock Mechanics
27	PH405	Statistical Mechanics
28	SM505	Financial and Cost Accounting
29	SM637	Employee Compensation and Benefits Management

SECOND SESSION (1.30 P.M. To 3.30 P.M.)		
Sl.No	Subject Code	Subject Name
1	CE201	Civil Engineering Materials and Construction
2	CE413	Advanced Design of Reinforced Concrete Structures
3	CH211	Processing and Handling of Materials
4	CH419	Computational Fluid Dynamics
5	CR223	Materials Thermodynamics
6	CR441	Electrical and Magnetic Ceramics
7	CS211	Discrete Mathematics
8	CS425	Data Warehousing and Mining
9	CS636	Image Processing
10	CY525	Advanced Co-ordination Chemistry
11	EC416	Microwave Engineering
12	EC431	PC based Instrumentation
13	EC631	Analytical Instrumentation
14	EE243	Analog Electronics
15	EE401	Power System Operation and Control
16	EE637	Soft computing Techniques
17	HS524	Cognitive Development and Assessment
18	ID441	Computer -Aided Manufacturing
19	ID613	Elements of Design
20	LS203	Microbiology
21	LS504	Environmental Sciences and Biostatistics
22	MA515	Homotopy Theory
23	ME211	Kinematics and Dynamics of Machinery
24	ME431	Decision Modeling
25	ME614	Experimental Stress Analysis
26	ME620	Nonlinear Oscillation
27	ME631	Production Technology
28	ME659	Cryogenic Process Engineering
29	ME701	Composite Materials
30	ME765	Advanced IC Engine Technology
31	MM201	Metallurgical Thermodynamics and Kinetics
32	MM427	Sponge Iron Technology
33	MM626	Alternative Routes of Iron Making
34	MN201	Mine Development
35	MN441	Mine Legislation and Safety Engineering
36	MN623	Advance Environmental Engineering
37	PH201	Heat and Thermodynamics
38	PH512	Advanced Statistical Mechanics
39	SM615	Product and Brand Management

Day 3 : *Date / Day of Examination : 25-SEP-2013 (Wednesday)*

	FIRST SESSION (8.30 A.M. To 10.30 A.M.)			SECOND SESSION (1.30 P.M. To 3.30 P.M.)	
Sl.No	Subject Code	Subject Name	Sl.No	Subject Code	Subject Name
1	BM343	Bioinformatics	1	BM421	Tissue engineering
2	BM623	Advanced Tissue Engineering	2	CE401	Estimation and Construction Management
3	CE311	Structural Design	3	CH421	Reaction Kinetics and Catalysis
4	CE615	Applied Elasticity and Plasticity	4	CR411	Advanced Ceramics
5	CE657	Water Quality Modeling and Management	5	CS412	Software Engineering
6	CH311	Heat Transfer Operations	6	CY533	Quantum Chemistry
7	CR331	Whiteware Technology	7	EC433	Process Control & Instrumentation
8	CR631	Industrial Ceramic Processing	8	EE405	Utilization of Electrical Energy and Drives
9	CS321	Data Communication	9	EE607	Extra High Voltage Transmission
10	CS625	Data Mining and Data Warehousing	10	EE633	Optimal Control
11	CY101	Chemistry	11	EE653	Digital Image Processing
12	CY511	Stereochemistry and Reaction Mechanism	12	HS535	Gender and Development
13	EC300	Microprocessor	13	ID431	Ergonomics in Design
14	EC615	Mobile Communication	14	ID617	Design for Quality and Reliability
15	EE301	Electrical Machines II	15	LS420	Applied Bioinformatics
16	HS511	Technical and Business Communication	16	MA201	Mathematics - III
17	ID311	Product Design - I	17	MA207	Introduction to Numerical Analysis
18	LS401	Microbiology	18	MA501	Abstract Algebra
19	MA403	Linear Algebra	19	MA503	Theory of Rings and Fields
20	ME351	Fluid Mechanics	20	ME411	Vibration and Noise Engineering
21	MM311	Phase Transformation	21	ME608	Control system Engineering
22	MN311	Surface Mining Technology	22	ME618	Rotor Dynamics
23	PH301	Waves and Oscillation	23	ME647	Production Management
24	PH401	Mathematical Methods in Physics	24	ME654	Advanced Thermodynamics
25	SM503	Managerial Economics	25	MM431	Mechanical Behaviour of Materials
			26	MM637	Mechanical Behaviour of Materials
			27	MM659	Vacuum Technology in Materials Engineering
			28	MN431	Mine Environmental Engineering
			29	MN613	Underground Mining Systems
			30	MN642	Hydrogeology
			31	PH507	Nuclear and Particle Physics
			32	SM613	Consumer Behaviour and Marketing Research

Day 4 : *Date / Day of Examination : 26-SEP-2013 (Thursday)*

FIRST SESSION (8.30 A.M. To 10.30 A.M.)

Sl.No	Subject Code	Subject Name
1	BM311	Medical Signal and Signal Processing
2	BM358	Bioreactor Analysis andDesign
3	BM625	Nanobiotechnology
4	CE331	Environment Engineering
5	CE613	Analysis and Design of Plates and Shells
6	CE625	Soil Exploration and Analysis of Foundations
7	CE655	Computational Fluid Dynamics
8	CH337	Equipment Design (Mech. Aspects)
9	CH631	Process Plant Simulation
10	CR327	Interface Science and Sol- Gel Processing
11	CR415	Bio-ceramics
12	CR435	Functional Materials and Devices
13	CS341	Microprocessors and Microcontrollers
14	CS613	Combinatorial Optimization
15	CS619	Software Engineering Requirement & Modeling
16	CY231	Basic Physical Chemistry I *(5th Sem)* *(MA5,PH5)*
17	CY312	Basic Organic Chemistry-II
18	CY531	Thermodynamics and Chemical Equilibria
19	EC311	Analog Communication Systems
20	EC312	Electromagnetic Theory
21	EC621	Digital VLSI Design
22	EE341	Embedded Systems
23	HS531	Social Institutions and Development
24	ID351	Industrial Mechatronics
25	LS440	Physical Sciences and Instrumentation
26	MA407	Topology
27	ME331	Metal Machining and Automation
28	MM331	Deformation Theory of Metals
29	MN303	Material Handling Systems
30	MN332	Remote Sensing and Its Application
31	PH101	Physics I
32	SM507	Marketing Management
33	SM635	Training and Development

SECOND SESSION (1.30 P.M. To 3.30 P.M.)

Sl.No	Subject Code	Subject Name
1	BM441	Protein Engineering
2	CE203	Mechanics of Solids
3	CE423	Advanced Foundation Engineering
4	CH223	Chemical Process Technology
5	CH427	Colloid and Interfacial Engineering
6	CR211	Unit Operations in Ceramic Processing
7	CR417	Unshaped Refractories
8	CR443	Application of Phase Diagrams
9	CR445	Application of Phase Diagrams
10	CR661	Technical Ceramics
11	CS241	Analog Electronics
12	CS421	Computer Networks
13	CY231	Basic Physical Chemistry I *(3rd Sem) (CY5)*
14	CY542	Pericyclic reactions and Photochemistry
15	EC201	Analog Electronics
16	EC419	Computer Communication Network
17	EC434	Analytical Instrumentation
18	EE425	Control System - II
19	EE427	Soft Computing
20	EE615	Power System Dynamics
21	EE631	Industrial Electronics
22	HS539	Theory of Money, Output and Employment
23	ID451	Industrial Automation
24	ID655	CNC Systems and Programming
25	LS201	Biochemistry
26	LS512	Developmental Biology
27	MA203	Real Analysis I
28	MA205	Calculus
29	MA531	Boundary Layer Theory
30	ME213	Mechanics of Solids
31	MM211	Science and Technology of Materials
32	MM449	Nanostructured Materials
33	MM611	Phase Transformation of Materials
34	MM620	Principles of Iron Making
35	MN415	Advanced Metaliferrous Mining
36	MN681	Special Topics in Mining Engineering - I
37	PH551	Crystal Symmetry and Crystal Physics
38	SM617	Sales and Distribution Management

Day 5 : *Date / Day of Examination : 27-SEP-2013 (Friday)*

	FIRST SESSION (8.30 A.M. To 10.30 A.M.)			SECOND SESSION (1.30 P.M. To 3.30 P.M.)	
Sl.No	**Subject Code**	**Subject Name**	**Sl.No**	**Subject Code**	**Subject Name**
1	BM331	Bioheat and Mass Transfer	1	BM201	Anatomy and Physiology
2	BM621	Advanced Biomaterials	2	CE209	Concrete Technology
3	BM629	Regenerative medicine and stem cell	3	CE451	Irrigation Engineering
4	CE301	Advanced Surveying	4	CH225	Chemical Process Calculations
5	CE313	Advanced structural analysis	5	CH415	Fluidization Engineering
6	CE619	Composite Structures	6	CR231	Properties of Ceramic Raw Materials
7	CE643	Highway and Airport Pavement Materials	7	CR421	Glasses for Advanced Technical Application
8	CE659	Water Resources Management	8	CS243	Digital Electronics
9	CH321	Fundamentals of Biochemical Engg.	9	CS434	Image Processing
10	CH629	Interfacial Science and Engineering	10	CY221	Chemistry of Industrial Materials
11	CR333	Heat Transfer and Fluid Flow	11	CY539	Biophysical Chemistry
12	CR335	Instrumental Characterization	12	EC203	Networks
13	CR647	Advanced Composites	13	EC421	Digital VLSI Design
14	CS338	Systems Software	14	EE241	Network Theory
15	CS623	Ad-hoc and Wireless Networks	15	EE611	Machine Analysis
16	CY322	Basic Inorganic Chemistry-I	16	EE625	Systems and Control Theory
17	CY515	Spectroscopic Methods of Analysis	17	EE643	Microwave and Antenna Systems
18	CY537	Advanced Solid State Chemistry	18	HS536	Trends and issues in Tribal Studies
19	EC100	Basic Electronics Engineering	19	ID221	Mechanisms and Machines
20	EC331	Control System Engineering	20	LS513	Enzymology and Metabolism
21	EC653	Image Processing & Computer Vision	21	MA401	Real Analysis
22	EE100	Basic Electrical Engineering	22	MA413	Analysis - II
23	EE345	Communication Systems Principles	23	ME251	Engineering Thermodynamics
24	HS541	Economics of Development	24	ME451	Power Plant Engineering
25	ID332	Interaction Design and Usability Engineering	25	ME600	Applied Finite Element Analysis
26	LS405	Cell Biology	26	ME615	Computer Aided Design of Machines
27	MA317	Linear Algebra	27	ME640	Laser Application in Manufacturing
28	ME353	Internal Combustion Engines	28	MM215	Physics of Materials
29	MM336	Mechanical Working of Metallic Materials	29	MM442	Advanced Materials
30	MN331	Solid Fuel Technology	30	MM601	Metallurgical Thermodynamics and Kinetics
31	PH303	Optics	31	MM603	Metallurgical Thermodynamics and Kinetics
32	PH409	Introduction to Spectroscopy	32	MN207	Mining Geology
33	SM509	Research Methodology	33	MN610	Mining of Deep Seated Deposits
34	SM631	Employee Relations and Labour Legislations	34	MN643	Advanced Mineral Processing Technology
			35	PH563	Physical Phenomena at Low Temperature
			36	PH667	Low Temperature Properties of Matter
			37	SM621	Financial Institutions, Instruments and Markets

Day 6 : *Date / Day of Examination : 28-SEP-2013 (Saturday)*

SI.No	Subject Code	Subject Name
		FIRST SESSION (8.30 A.M. To 10.30 A.M.)
1	BM641	Immunotechnology
2	CH315	Mass Transfer Operations
3	CH613	Advanced Mass Transfer
4	CS427	Network Security
5	CS621	Cryptographic Foundations
6	EC415	Mobile Communication
7	EC651	Digital Filter Design
8	EE203	Electrical Machines I
9	EE417	High Voltage Engineering
10	HS543	Global Issues in Development
11	MA315	Abstract Algebra
12	ME250	Thermal Engineering
13	MM321	Iron Making
14	MN305	Mineral Processing Technology
15	SM511	Management Information System
16	SM627	Security Analysis and Portfolio Management

SI.No	Subject Code	Subject Name
		SECOND SESSION (1.30 P.M. To 3.30 P.M.)
1	CE316	Advanced Mechanics of Solids
2	CR418	Nanomaterials
3	CR635	Whiteware Production and Practices
4	CS616	Algorithm Design
5	CY211	Name Reaction And Rearrangements
6	EE645	Adaptive Signal Processing
7	ME603	Applied Elasticity and Plasticity
8	ME650	Heat Transfer – I: Conduction and Radiation Heat Transfer
9	MM606	X - Ray and Electron Microscopy
10	PH403	Classical Mechanics
11	SM623	Commercial Banking

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Asst. Registrar(Academic)

Copy to:

1. All Notice Boards (Institute/Halls of Residence).
2. All Deans/ Chief Warden.
3. Registrar.
4. Professor In-charge Examinations
5. All Wardens of Halls.
6. All HODs are requested to send the question papers in sealed packets (packets supplied by Academic Office) containing required number of question papers Hall wise (actual student strength in the hall + 05 extra) as per the Hall arrangement list latest by **18.09.2013**. On the packet containing questions the HODs/ concerned faculty members are requested to clearly state the list of requisite tables, codes, charts etc, to be supplied to the student by the academic office during the examination.

   [A sample copy of the relevant material may be attached on the question packet or may be sent to the undersigned separately for official record and timely supply]
   *** All faculties are requested to mention their mobile number on the question packets for any emergency queries during the examination.*

7. Security Officer.
8. In-charge (Technical Service).