

# University of Mumbai



(57)  
**Second Half - 2008**

## **PROGRAMME OF THE M.Sc. (OTHER THAN MATHEMATICS, STATISTICS & GEOGRAPHY) (PART II) EXAMINATION.**

Candidates for the above examination are requested to be in attendance at the place of examination, fifteen minutes before the time appointed for setting of the first paper and ten minutes before the time fixed for setting of each subsequent paper.

THEY ARE FORBIDDEN TO TAKE ANY BOOK OR PAPER INTO THE EXAMINATION HALL.

Seat numbers and places of examination will be announced on the college notice boards four days prior to the date of commencement of the examination.

Smoking is strictly prohibited in the examination hall.

The written examination will be conducted in the following order: -

<b>Days and Dates</b>	<b>Time</b>	<b>Paper</b>
Tuesday, 14 <sup>th</sup> October 2008	10:30 AM to 01:30 PM	Physics : Paper V – Classical Electrodynamics & Statistical Mechanics.
		Chemistry : Physical Chemistry – Paper I – Atomic Structure Chemical Bonding, Symmetry and Group Theory Spectroscopy.
		Chemistry : Inorganic Chemistry – Paper I – Solid State Chemistry.
		Chemistry : Organic Chemistry – Paper I– Physical Organic Chemistry and Photochemistry.
		Chemistry : Analytical Chemistry – Paper I – Quality in Analytical Chemistry.
		Biochemistry : Paper V – Principles of Genetics and Biotechnology.
		Botany : Paper V – Techniques & Instrumentation
		Zoology : Paper V – Basics of Industrial and Environmental Biotechnology
		Geology : Paper I – Igneous & Metamorphic Petrology.
		Microbiology : Paper V – Applied Microbiology (Old)
		Microbiology : Paper V – Immunology and Microbiology in Health Science (Rev)
		Computer Science : Paper I – Artificial Intelligence and Image Processing.
		Life Sciences : Biological Macromolecules – Paper I – Biophysics & Bioinformatics.
		Life Sciences : Biotechnology – Paper I – Perspective of Biotechnology.
		Life Sciences : Applied Medical Science – Paper I – Human Genetics & Immunology.
		Life Sciences : Neurobiology – Paper I – Organization of the Nervous System.
Biotechnology : Paper V – Computational Biotechnology.		
Environmental Science : Paper V – Pollution Control and Waster Management.		

<b>Days and Dates</b>	<b>Time</b>	<b>Paper</b>
Tuesday, 14 <sup>th</sup> October 2008	10:30 AM to 01:30 PM	Biophysics : Paper V – Biomolecular Spectroscopy and Biocrystallography.
		Bioanalytical Sciences : Paper V – Microbiology, Genomics, CE and Toxicology.(Old) Bioanalytical Sciences : Paper V – Basic Advances in Biotechnolog (Rev)
		Information Technology : Paper I – Software Testing and Information Security.
		Herbal Sciences : Paper V – Microbiology, Immunology, Human Body.
Thursday, 16 <sup>th</sup> October 2008	10:30 AM to 01:30 PM	Physics : Paper VI – Atomic & Molecular Physics, Laser & Plasma Physics.
		Chemistry : Physical Chemistry – Paper II – Materials Science Statistical Thermodynamics, Non-equilibrium Thermodynamics and Photo-Chemistry.
		Chemistry : Inorganic Chemistry – Paper II – Co-ordination Chemistry.
		Chemistry : Organic Chemistry – Paper II – Synthetic Organic Chemistry.
		Chemistry : Analytical Chemistry – Paper II – Advanced Instrumental Techniques.
		Biochemistry : Paper VI – Advanced Immunology.
		Botany : Paper VI – Molecular Biology.
		Zoology : Paper VI – Genetic Engineering Techniques and Its Applications.
		Geology : Paper II – Geology of India.
		Microbiology : Paper VI – Medical Microbiology & Immunology. (Old)
		Microbiology : Paper VI – Advances in Biotechnology (Rev).
		Computer Science : Paper II – Distributed Computing and Embedded System.
		Life Sciences : Biological Macromolecules – Paper II – Molecular Cell Biology.
		Life Sciences : Biotechnology – Paper II – Enzymology & Industrial Biotechnology.
		Life Sciences : Applied Medical Science – Paper II – Microbial Diseases & Disorders.
		Life Sciences : Neurobiology – Paper II – Systems Approach to Neurosciences.
		Biotechnology : Paper VI – Plant & Animal Biotechnology.
		Environmental Science : Paper VI – Environmental Biotechnology and Health.
		Biophysics : Paper VI – Biophysical Methods and Instrumentation.
		Bioanalytical Sciences – Paper VI – MS Application, Metabolite Studies, Thermal Analysis and Tracer Techniques (Old)
		Bioanalytical Sciences – Paper VI – MS Application, Metabolite Studies, Thermal Analysis and Tracer Techniques (Rev)
		Information Technology – Paper II – Artificial Intelligence and Robotics.
		Herbal Sciences : Paper VI – Herbal Science – Commercial Aspect.

Days and Dates	Time	Paper
Saturday, 18 <sup>th</sup> October, 2008	10:30 AM to 01:30 PM	Physics : Paper VII – Optional Papers – Nuclear Physics.
		Physics : Paper VII – Solid State Physics.
		Physics : Paper VII – Solid State Electronics – I.
		Physics : Paper VII – Electronics – Microprocessors , Microcomputers & Embedded Applications.
		Physics : Paper VII – Electronics – Electronic Communications.
		Physics : Paper VII – Chemical Physics.
		Physics : Paper VII – Laser Physics.
		Physics : Paper VII – Theoretical Physics.
		Physics : Paper VII – Space Physics.
		Physics : Paper VII – Material Science.
		Chemistry : Physical Chemistry – Paper III – Advanced Instrumental Techniques.
		Chemistry : Inorganic Chemistry – Paper III – Instrumental Methods & Analysis.
		Chemistry : Organic Chemistry – Paper III – Heterocyclic Chemistry.
		Chemistry : Analytical Chemistry – Paper III – Environmental and Certain Industrially Important Materials.
		Biochemistry : Paper VII – Human Nutrition & Detetics and Clinical Biochemistry.
		Botany : Paper VII – Micology and Plant Pathology.
		Botany : Paper VII – Angiosperms and Phytochemistry.
		Botany : Paper VII – Plant Physiology and Biochemistry.
		Botany : Paper VII – Environmental Botany.
		Botany : Paper VII – Molecular Biology, Cytogenetics and Biotechnology.
		Zoology : Paper VII – Oceanography, Fishery, Sc and Aquaculture – General, Physical, Chemical and Biological Oceanography. OR.
		Zoology : Paper VII – Animal Physiology – Comprehensive Physiology. OR.
		Zoology : Paper VII – Endocrinology – Vertebrate Endocrinology and Reproductive Biology. OR.
		Zoology : Paper VII – Entomology – General Entomology. OR.
		Zoology : Paper VII – Environmental Sciences – Concepts in Environmental Science. OR.
		Zoology : Paper VII – Toxicology – General Principles of Toxicology.
		Geology : Paper III – Marine Geology, Structural Analysis & Geotectonics with Reference to Indian Plate.
		Microbiology : Paper VII – Microbial Biotechnology (Old)
		Microbiology : Paper VII – Quality Management Systems in Microbiological Practices (Rev)
		Computer Science : Paper III – Elective I – Parallel Processing and Advanced Computer Networks. OR

<b>Days and Dates</b>	<b>Time</b>	<b>Paper</b>
Saturday, 18 <sup>th</sup> October, 2008	10:30 AM to 01:30 PM	Computer Science : Paper III – System Security and Internet Security. OR
		Computer Science : Paper III – Enterprise Networking and Satellite Communications. OR
		Computer Sciences : Paper III – Fuzzy Logic, Neural Network and Multimedia Systems and Convergence of Technologies.
		Life Sciences : Biological Macromolecules – Paper III – Metabolism & its Regulation.
		Life Sciences : Biotechnology – Paper III – Molecular Biotechnology.
		Life Sciences : Applied Medical Science – Paper III – Routine Diagnostic Techniques.
		Life Sciences : Neurobiology – Paper III – Behavioral Neosciences.
		Biotechnology : Paper VII – Environmental Biotechnology and Energy.
		Environmental Science : Paper VII – Industrial Hygiene Occupational Health and Safety.
		Biophysics : Paper VII – Radiation and Medical Biophysics.
		Bioanalytical Sciences : Paper VII – Standardization of ASU Drugs and GPM. (Old)
		Bioanalytical Sciences : Paper VII – Standardization of ASU Drugs & Statistics and GMP (Rev)
		Information Technology : Paper III – Elective I – Parallel Processing and Distributed Computing. OR
		Information Technology : Paper III – Intelligent Systems and Neural Networks and Fuzzy Systems. OR
		Information Technology : Paper III – Digital Signal Processing and Enterprise Networking.
		Herbal Sciences : Paper VII – Herbal Formulations.
Tuesday, 21 <sup>st</sup> October 2008	10:30 AM to 01:30 PM	Physics : Paper VIII – Optional Papers – II. Nuclear Physics.
		Physics : Paper VIII – Solid State Physics.
		Physics : Paper VIII – Solid State Electronics.
		Physics : Paper VIII – Electronics – Microprocessors , Microcomputers & Embedded Applications.
		Physics : Paper VIII – Electronics – Electronic Communications.
		Physics : Paper VIII – Chemical Physics.
		Physics : Paper VIII – Plasma Physics.
		Physics : Paper VIII – Theoretical Physics.
		Physics : Paper VIII – Astronomy.
		Physics : Paper VIII – Materials Science.
		Chemistry : Physical Chemistry : Paper IV – Polymer Chemistry, Physical Organic Chemistry Biophysical Chemistry, Green Chemistry and Applied Electrochemistry.
		Chemistry : Inorganic Chemistry : Paper IV – Applied Chemistry.

Days and Dates	Time	Paper
Tuesday, 21 <sup>st</sup> October 2008	10:30 AM to 01:30 PM	Chemistry : Organic Chemistry –Paper IV – Biogenesis and Steroids.
		Chemistry : Analytical Chemistry – Paper IV – Pharmaceutical Biochemical and Organic Analysis.
		Biochemistry : Paper VIII – Research Methodology Biostatistics and Bioinformation.
		Botany : Paper VIII – Micology and Plant Pathology
		Botany : Paper VIII – Angiosperms and Phytochemistry
		Botany : Paper VIII – Plant Physiology and Biochemistry.
		Botany : Paper VIII – Environmental Botany.
		Botany : Paper VIII – Molecular Biology, Cytogenetics and Biotechnology.
		Zoology : Paper VIII – Oceanography, Fishery Sc. & Aquaculture – Planktology, Fish, Fishery Science and Aquaculture.
		OR
		Zoology : Paper VIII – Animal Physiology – Environmental and Applied Physiology.
		OR
		Zoology : Paper VIII – Endocrinology – Comparative and Molecular Endocrinology.
		OR
		Zoology : Paper VIII – Entomology – Applied Entomology, Ecology and Genetics.
		OR
		Zoology : Paper VIII – Environmental Sciences – Pollution, Conservation and Reso. Management.
		OR
		Zoology : Paper VIII – Toxicology – Toxicology in Special Situations.
		Microbiology : Paper VIII – Quantitative Microbiology. (Old)
		Microbiology : Paper VIII –Tools & Techniques in Microbiology (Rev).
		Computer Science : Paper IV – Elective II – Pattern Recognition and Computer Vision.
		OR
Computer Science : Paper IV – Virtual Reality, Virtual Environment and Java Technology.		
Computer Science : Paper IV – Bio-Informatics and Intelligent Systems.		
OR		
Computer Science : Paper IV – Optimization Techniques and Customer Relations Management.		
Life Sciences : Biological Macromolecules – Paper IV – Biomolecular Struture & Function.		
Life Sciences : Biotechnology – Paper IV – Plant & Animal Biotechnology.		
Life Sciences : Applied Medical Science – Paper IV – Advances in Diagnostics & Therapeutics.		
Life Sciences : Neurobiology – Paper IV – Molecular Neurobiology.		
Geology : Paper IV – Coal & Petroleum Geology.		

<b>Days and Dates</b>	<b>Time</b>	<b>Paper</b>
Tuesday, 21 <sup>st</sup> October 2008	10:30 AM to 01:30 PM	Environmental Sciences : Paper VIII – Environmental Management.
		Biotechnology : Paper VIII – Social and Commercial aspects of Biotechnology.
		Biophysics : Paper VIII – Computer Applications, Modeling and Bioinformatics.
		Bioanalytical Sciences : Paper VIII – GCP and BA/BE Studies (Old)
		Bioanalytical Sciences : Paper VIII –BA/BE Studies GCP and Method Validation (Rev)
		Information Technology : Paper IV – Elective – II – Pattern Recognition and Computer Vision. OR
		Information Technology : Paper IV – System Security, Virtual Reality and Virtual Environment. OR
		Information Technology : Paper IV – Multimedia Systems and Convergence of Technologies and Java Technology.
		Herbal Sciences : Paper VIII – Plant Biotechnology and Environmental Sciences.

For candidates appearing with Internal cum External Assessment Scheme the question paper will be of two hours duration i.e. from 10:30 A.M. to 12.30 P.M. in all subjects.

Mumbai – 400 098

**PROF.VILAS B.SHINDE**  
CONTROLLER OF EXAMINATIONS