



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

M.Sc. THIRD SEMESTER (C B C S) EXAMINATION OF SUMMER, 2023

-:PROGRAMME (WRITTEN):-

TIME:-2.30 P.M. TO 5.30 P.M.

Sr. No	Subject	Day Date Paper	Wednesday 24-05-2023 I	Friday 26-05-2023 II	Tuesday 30-05-2023 III	Thursday 01-06-2023 IV
1.	Physics	Quantum Mechanics II		Solid State Physics and Spectroscopy	Elective 1. Materials Science – I 2. X-rays – I 3. Nanoscience and Nanotechnology – I 4. Atomic and Molecular Physics– I 5. Applied Electronics – I 6. Methods of Theoretical Physics –I 7. Nonlinear Dynamics-I	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Fundamentals of Spectroscopy Fundamentals of Nanoscience and Nanotechnology Subject Centric Core : Solid Earth Geophysics Subject Centric Core : Nanoscience And Nanotechnology Subject Centric Core : Quantum Computing Subject Centric Core : Digital Electronics And Micro processor
2.	Chemistry	Special I – Inorganic / Organic / Physical / Analytical		Special II – Inorganic / Organic / Physical / Analytical	Elective –Nuclear / Environmental / Polymer / Medicinal	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Applied Analytical Chemistry-I Core(Subject Centric) Spectroscopy-I
3.	Bio-Chemistry	Advanced Molecular Biology		Biotechnology	A) Toxicology (Biochemical & Environmental Toxicology) OR B) Nutrition (Nutritional Biochemistry)	Biomolecules and Basic Metabolism OR Core (Subject Centric) Bioresearch Techniques-I
4.	Microbiology	Molecular Biology and Genetics (MBG)		Recombinant DNA Technology and Nanobiotechnology (RDTN)	Elective 1) Microbial Diversity, Evolution and Ecology (MDEE)-I OR 2) Bioinformatics (BIF)-I	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS General Microbiology(GM) OR Core (Subject Centric) Drugs And Disease Management (DDM)-I
5.	Botany	Plant Ecology and Conservation Biology		Angiosperms-II	Elective 1) Molecular Biology and Plant Biotechnology 2) Reproductive Biology of Angiosperms 3) Advanced Phychology and Hydrobiology 4) Mycology and Plant Pathology 5) Palaeobotany 6) Palynology 7) Plant Physiology	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS 1) General Botany Subject Centric 1) Aesthetic Botany
6.	Zoology	Parasitology & Immunology		Special Group – Paper – I Entomology Fish and Fisheries Mammalian Reproductive Physiology (MRP) Animal Physiology Cell Biology Fresh Water Zoology Aquaculture Environmental Biology Sericulture	Special Group – Paper – II Entomology Fish and Fisheries Mammalian Reproductive Physiology Animal Physiology Cell Biology Fresh Water Zoology Aquaculture Environmental Biology Sericulture	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Elementary Zoology Basic Entomology Fresh Water Fisheries Human Physiology Core (Subject Centric)-I Wild Life Avian Biology

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7.	Geology	Hydrogeology & Watershed Management (3+1)	Geomorphology, Remote Sensing and GIS (1+2+1)	Elective 1. Mining Geology And Mineral Exploration(1+3) 2. Applied And Industrial Micropaleontology 3. Petroleum Exploration	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Introduction to Geology OR Core (Subject Centric) Environmental Geology & Engineering Geology (2+2)	
8.	Environmental Science	Physico – Chemical Treatment of Water & Waste Water	Biological Process in Wastewater Treatment	Elective Water & Water Treatment OR Water Supply and Resources	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS 1. Fundamentals of Environment Science –I Core (Subject Centric) 2. Advance Water & Wastewater Treatment	
9.	Statistics	Decision Theory and Non Parametric Methods	Linear and Nonlinear Modeling	Elective 1. Mathematical Programming (Old) 2. Computer Programming 3. Survival Analysis 4. Bioassay 5. Demography 6. Time Series Analysis 7. Industrial Process And Quality Control (New)	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Statistics –I Biostatistics-I Core (Subject Centric) 1. Industrial Process And Quality Control (Old) 2. Statistical Ecology 3. Statistical Genetics 4. Mathematical Statistics 5. Data Mining 6. Mathematical Programming (New)	
10.	Mathematics	Complex Analysis	Functional Analysis	Mathematical Methods	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECT 1. Elementary Mathematics Core (Subject Centric) Operations Research – I Paper V:- Saturday , 03-06-2023 Core Elective Paper (opt any one of the following) 1. Fluid Dynamics – I 2. General Relativity 3. Algebraic Topology-I 4. Measure and Integration Theory 5. Number Theory	
11.	Electronics	Network Analysis and Synthesis	Fuzzy Logic and Artificial Neural Networks	Elective Digital Signal Processing Digital Image Processing	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Basic Electronics Core (Subject Centric) Mechatronics	

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12.	Computer Science	Data Communication and Networks	Software Engineering	Elective 1. Neural Network 2. Multimedia Technologies 3. ASP. NET	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Operating System Concepts Principles of Management E-Business Core (Subject Centric) Mobile Computing Core (Subject Centric) Digital & Cyber Forensics	
13.	Molecular Biology and Genetic Engineering	Industrial Application of Genetic Engineering	Recombinant DNA Technology-I	Elective 1. Molecular Diagnostics Methods -I 2. Plant Genetic Engineering – I 3. Bioinformatics and Data Mining-I	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS 1. Molecular Biology 2. Core (Subject Centric) 3. Cytology and Genetics	
14.	M.Sc. Tech. Applied Geology	Instrumentation Techniques, Geostatistics and Computer Application in Geology	Indian Mineral Deposits and Mineral Economics	Ore Geology	Mining Geology & Valuation of Mineral Property	
15.	Information Technology	Data Communication and Networks	Software Engineering	Elective 1. Soft Computing 2. Distributed Databases 3. Object Oriented Analysis and Design using UML	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Operating System Concepts Principles of Management E- Business Core (Subject Centric) CORBA Core (Subject Centric) Digital & Cyber Forensics CORBA	
16.	Biotechnology	Genetic Engineering & its Application	Plant Biotechnology	Elective A) Industrial Biotechnology I OR B) Environmental Biotechnology I	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Introductory Biotechnology OR Core (Subject centric) Diagnostic Medical Biotechnology	
17.	Forensic Science (NEW COURSE)	Criminology and Forensic Law	<u>Any One out of the following Special</u> 1. Questioned Documents Analysis-I 2. Forensic Biology and Entomology 3. Instrumentation 4. File system 5. Instrumentation in Forensic Physics	<u>Any One out of the following Special</u> 1. Forensic Serology 2. Advanced Fingerprint Development Method-I 3. Advanced Forensic Chemistry 4. Digital Image Processing 5. Internal Ballistics	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Applied Analytical Chemistry-I <u>Paper V:- Saturday, 03-06-2023</u> <u>Any One out of the following Special</u> 1. Advanced Forensic Toxicology 2. Forensic Linguistics and Stylistics 3. DNA Fingerprinting 4. Network Forensics 5. External Ballistics <u>Paper VI:- Monday, 05-06-2023</u> <u>Any One out of the following Special</u> 1. Applied Cryptography 2. Forensic Photography 3. Forensic Pathology and Microbial Forensic 4. Advanced Chemistry 5. Terminal Ballistics	

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18.	Medicinal Plants	Immunology and Microbiology		Herbal Cosmetics	Core Elective Natural Plant Products & Phytochemistry -I OR Forensic and Industrial Botany-I	FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS Fermentation Technology OR Core Subject Centric Cultivation and Utilization of Medicinal Plants

FOR FOUNDATION COURSE OPTIONAL – AS PER ENCLOSED LIST OF FOUNDATION COURSES OF 42 SUBJECTS

List of Foundation Subjects for P.G.

Sr.No.	Subject	4 th Papers of Semester- 3
1	Mathematics	Mathematics-I
2	Physics	Physics-I
3	Chemistry	Chemistry-I
4	Bio-Technology (Ad-hoc)	Bio-Technology-I
5	Computer Science	Computer Science-I
6	Environmental Science	Environmental Science-I
7	Botany	Botany-I
8	Zoology	Zoology-I
9	Statistic	Statistics-I
10	Business Management	Business Management -I
11	Accountancy	Account & Statistics-I
12	Managerial Skill	Managerial Skills-I
13	Education Technology & Management Skills	Education Technology & Management Skills-I
14	Communication Skill	Communication Skills-I
15	Sanskrit	Sanskrit-I
16	German	German-I
17	French	French-I
18	Law	Law-I
19	Pharmaceutical Sciences	Pharmaceutical Sciences-I
20	Life skills	Life Skills-I
21	Economics	Economics-I

22	Political Science	Political Science-I
23	Sociology	Sociology-I
24	Psychology	Psychology-I
25	Philosophy	Philosophy-I
26	History	History-I
27	Public Admn	Public Admn -I
28	Buddhist Studies	Buddhist Studies-I
29	Gandhian Thought	Gandhian Thought-I
30	Dr. Ambedkar Thought	Dr. Ambedkar Thought-I
31	Rashtrasant Tukdoji Maharaj Thought	Rashtrasant Tukdoji Maharaj Thought-I
32	Travel & Tourism	Travel & Tourism-I
33	Personality Development	Personality Development-I
34	Cosmetic Technology	Cosmetic Technology-I
35	Hospitality Management	Hospitality Mgt. -I
36	Chemical Engineering	Chemical Engineering-I
37	Chemical Technology	Chemical Technology-I
38	Civil Engineering	Civil Engineering-I
39	Electrical Engineering	Electrical Engineering-I
40	Mechanical Engineering	Mechanical Engineering-I
41	Electronics Engineering	Electronics Engineering-I
42	Pali Prakrit	Pali Prakrit-I

GENERAL INSTRUCTIONS FOR SEATING ARRANGEMENT

The name of the College Centre is already printed on the Admission Card of each candidate. However, it is notified for general information of the candidates that :-

The seating arrangement for the Centre will be notified separately seven days prior to the commencement of the written examination at the respective College / Centre. The candidates concerned will also be able to get the necessary information from that chart of seating arrangement sent to the concerned College by University.

Nagpur

Date: 24th April 2023

Sd/-
Director
Board Of Examination & Evaluation
Rashtrasant Tukadoji Maharaj
Nagpur University