

## MASTER OF SCIENCE (M.Sc.-PHYSICS) :

Duration : **Two Years.**

Eligibility : **As per Rashtrasant Tukadoji Maharaj Nagpur University rules.**

Medium of Instructions : **English.**

### FIRST YEAR (SEMESTER-I)

Sr. No.	Subject	Paper
1	Mathematical Physics	Paper-I
2	Complex Analysis & Numerical Methods	Paper-II
3	Electronics	Paper-III
4	Electrodynamics-I	Paper-IV
5	Practical-I and 2	
6	Seminar	

### FIRST YEAR (SEMESTER-II)

Sr. No.	Subject	Paper
1	Quantum Mechanics-I	Paper-V
2	Statistical Physics	Paper-VI
3	Classical Mechanics	Paper-VII
4	Electrodynamics-II	Paper-VIII
5	Practical-3 and 4	
6	Seminar	

### SECOND YEAR (SEMESTER-III)

Sr. No.	Subject	Paper
1	Quantum Mechanics-II	Paper-IX
2	Solid State Physics & Spectroscopy	Paper-X
3	<b>Core Elective 1</b> Material Science-I	Paper-XI
4	<b>Subject Centric Core Course</b> Nanoscience & Nanotechnology	Paper-XII
5	Practical-5 and 6	
6	Seminar	

### SECOND YEAR (SEMESTER-IV)

Sr. No.	Subject	Paper
1	Nuclear and	Paper-XIII
2	Particle Physics Solid State Physics	Paper-XIV
3	<b>Core Elective 2</b> Material Science-II	Paper-XV
4	<b>Subject Centric Core Course</b> Experimental Techs. in Physics	Paper-XVI
5	Practical-7	
6	Project	
7	Seminar	

**Note :** Changes, if any, in the syllabus will be subject to those made by Rashtrasant Tukadoji Maharaj Nagpur University.

## MASTER OF SCIENCE (M.Sc.-CHEMISTRY) :

Duration : Two Years.

Eligibility : As per Rashtrasant Tukadoji Maharaj Nagpur University rules.

Medium of Instructions : English.

### FIRST YEAR (SEMESTER-I)

Sr. No.	Subject	Paper
1	Inorganic Chemistry	Paper-I
2	Organic Chemistry	Paper-II
3	Physical Chemistry	Paper-III
4	Analytical Chemistry	Paper-IV
5	Practical-I : Inorganic Chemistry	
6	Practical-II : Physical Chemistry	

### FIRST YEAR (SEMESTER-II)

Sr. No.	Subject	Paper
1	Inorganic Chemistry	Paper-V
2	Organic Chemistry	Paper-VI
3	Physical Chemistry	Paper-VII
4	Analytical Chemistry	Paper-VIII
5	Practical-III : Organic Chemistry	
6	Practical-IV : Analytical Chemistry	

### SECOND YEAR (SEMESTER-III)

Sr. No.	Subject	Paper
1	Special-I Organic	Paper-IX
2	Special-II Organic	Paper-X
3	<b>Elective</b> -Polymer	Paper-XI
4	<b>Core Subject Centric :</b> Spectroscopy-I	Paper-XII
5	Practical V - Special : Organic	
6	Practical VI- Elective : Polymer	

### SECOND YEAR (SEMESTER-IV)

Sr. No.	Subject	Paper
1	Special-I Organic	Paper-XIII
2	Special-II Organic	Paper-XIV
3	<b>Elective</b> -Polymer	Paper-XV
4	<b>Core Subject Centric :</b> Spectroscopy-II	Paper-XVI
5	Practical VII - Special : Organic	
6	Project	
7	Seminar-IV	

**Note :** Changes, if any, in the syllabus will be subject to those made by Rashtrasant Tukadoji Maharaj Nagpur University.

## MASTER OF SCIENCE (M.Sc.-MATHEMATICS) :

Duration : **Two Years.**

Eligibility : **As per Rashtrasant Tukadoji Maharaj Nagpur University rules.**

Medium of Instructions : **English.**

### FIRST YEAR (SEMESTER-I)

Sr. No.	Subject	Paper
1	Algebra-I	Paper-I
2	Real Analysis-I	Paper-II
3	Topology-I	Paper-III
4	Linear Algebra & Differential Equations	Paper-IV
5	Integral Equations	Paper-V

### FIRST YEAR (SEMESTER-II)

Sr. No.	Subject	Paper
1	Algebra-II	Paper- VI
2	Real Analysis-II	Paper- VII
3	Topology-II	Paper- VIII
4	Differential Geometry	Paper-IX
5	Classical Mechanics	Paper-X

### SECOND YEAR (SEMESTER-III)

Sr. No.	Subject	Paper
1	Complex Analysis	Paper-XI
2	Functional Analysis	Paper-XII
3	Mathematical Methods	Paper-XIII
4	General Relativity	Paper-XIV
5	Operation Research-I	Paper-XV

### SECOND YEAR (SEMESTER-IV)

Sr. No.	Subject	Paper
1	Dynamical Systems	Paper-XVI
2	Partial Differential Equations	Paper-XVII
3	Advanced Numerical Methods	Paper-XVIII
4	Cosmology	Paper-XIX
5	Operation Research-II	Paper-XX

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