

# **B.Sc. (Maths)**

## **Combination of Physics-Mathematics-Statistics**

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- **Subject-1 Physics**
- **Subject-2 Mathematics**
- **Subject-3 Statistics**

Semester	COURSE CODE	PAPER TITLE	CREDIT	
<b>Semester- I</b>				
<b>(a) Major I – Physics (Subject-1)</b>				
<b>First Semester</b>	PHY101	Basics of Physics	2+0*	
	PHY 102 (B010101T)	Mathematical Physics and Newtonian Mechanics	4+0	
	PHY 103 (B010102P)	Practical (Mechanical Properties of Matter)	0+2	
	<b>Major II--Mathematics (Subject-2)</b>			
	MAT 101	Basics of Mathematics	2+0*	
	MAT 102 (B030101T)	Differential Calculus and Integral Calculus	4+0	
	MAT 103 (B030102P)	Practical	0+2	
	<b>Major III--Statistics (Subject-3)</b>			
	STA 101	Basics of Statistics	2+0*	
	STA 102 (B060101T)	Descriptive Statistics (Univariate) and Theory of Probability	4+0	
	STA 103 (B060102P)	Descriptive Data Analysis Lab (Univariate)	0+2	
	<b>(b) Minor Elective</b>			
	ENG 100	Basics of English	2+0	
	URD 100	Basics of Urdu	2+0	
	FMV 100	Basics of Visual Arts	2+0	
	STAT 100	Data Science I	1+1	
	MAT 100	Foundation of Mathematics I	2+0	
	HIS 106	Introduction to Deen Dayal Upadhyaya (Compulsory)	2+0	
	PHI 100	Introduction to Nath Panth	2+0	
	DSS 106	Understanding Disaster	2+0	
	<b>(c) Minor Co-Curricular</b>			
	NCC 100	National Cadet Corps	0+2	
	NSS 100	National Service Scheme	0+2	
	RR 100	Rovers & Rangers	0+2	
	PHED 100	Sports (any)	0+2	
	FMV 105	Cultural Activities	0+2	
	HSC 100	Nutrition, Health and Hygiene	2+0	
	PSY 100	Communication Skills and Personality Development	2+0	
	<b>(d) Minor Vocational</b>			
	AEDU 100	Fashion Designing and Craft Designing	0+2	
AEDU 101	Education Information Technology	0+2		
AEDU 102	Fashion Accessories	0+2		

- Candidates have to choose one Basic/Introductory Course out of the three major subjects
- Minimum of 2 credits required for Minor/Elective, Minor/Vocational/and Minor C-Curricular
- Minor/Vocational is qualifying.

<b>Semester-II</b>		
<b>COURSE CODE</b>	<b>PAPER TITLE</b>	<b>CREDIT</b>
<b>(a) Major I: Physics (Subject-1)</b>		
PHY 104 (B010201T)	Thermal Physics & Semiconductor Devices	4+0
PHY 105 (B010202P)	Practical (Thermal Properties of Matter & Electronic Circuits)	0+2
<b>Major II: Mathematics (Subject-2)</b>		
MAT 104 (B030201T)	Matrices and Differential Equations	3+0
MAT 105 (B030202T)	Geometry	3+0
<b>Major III: Statistics (Subject-3)</b>		
STA 104 (B060201T)	Descriptive Statistics (Bivariate) and Probability Distributions	4+0
STA 105 (B060202)	Descriptive Data Analysis Lab (Bivariate)	0+2
<b>(b) Minor Elective</b>		
ENG 106	Basics of English Speaking	2+0
STAT 200	Data Science II	1+1
BOT 107	Resource Management and Zero Waste Campus	2+0
HND 100	Rashtra Gaurav (Compulsory)	2+0
MAT 200	Foundation of Mathematics II	2+0
DSS 100	Concepts of War	2+0
DSS 200	Disaster Management Mechanism in India	2+0
<b>(c) Minor Co-curriculum</b>		
NCC 100	National Cadet Corps	0+2
NSS 100	National Service Scheme	0+2
RR 100	Rovers & Rangers	0+2
PHED 100	Sports (any)	0+2
FMV 105	Cultural Activities	0+2
HSC 100	Nutrition, Health and Hygiene	2+0
PSY 100	Communication Skills and Personality Development	2+0
<b>(d) Minor Vocational</b>		
AEDU 101	Fashion Designing and Craft Designing	0+2
AEDU 102	Education Information Technology	0+2
AEDU 103	Fashion Accessories	0+2

Second Semester

- Minimum of 2 credits required for Minor/Elective, Minor/Vocational/and Minor C-Curricular
- Minor/Vocational is qualifying.

<b>Semester-III</b>		
<b>(a) Major I: Physics (Subject-1)</b>		
<b>COURSE CODE</b>	<b>PAPER TITLE</b>	<b>CREDIT</b>
PHY 201 (B010301T)	Electromagnetic Theory & Optics	4+0
PHY 202 (B010302P)	Practical (Demonstrative Aspects of Electricity & Magnetism)	0+2
<b>Major II: Mathematics (Subject-2)</b>		
MAT 201 (B030301T)	Algebra	3+0
MAT 202 (B030302T)	Mathematical Methods	3+0
<b>Major III: Statistics (Subject-3)</b>		
STA 201 (B060301T)	Theory of Estimation and Sampling Survey	4+0
STA 202 (B060302P)	Sampling Survey Lab	0+2
<b>(b) Minor Elective</b>		
ENG 107	Introduction to English Grammar and Usage	2+0
ENG 110	Introduction to French Language	2+0
STAT 100	Data Science I	1+1
HIS 106	Introduction to Pt. Deen Dayal Upadhyaya	2+0
MAT 100	Foundation of Mathematics I	2+0
PHI 100	Introduction of Nath panth	2+0
<b>(c) Minor Co-curriculum</b>		
NCC 100	National Cadet Corps	0+2
NSS 100	National Service Scheme	0+2
RR 100	Rovers & Rangers	0+2
PHED 106	Physical Education and Yoga	0+2
PHED 100	Sports (any)	0+2
FMV 100	Cultural Activities	0+2
HSC 100	Nutrition, Health and Hygiene	2+0
PSY 100	Communication Skills and Personality Development	2+0
<b>(d) Minor Vocational</b>		
COMP 203	Animation	0+2
COMM 203	Finance & Baking	0+2
LAW 203	Cyber Laws	0+2

**Third Semester**

- Minimum of 2 credits required for Minor/Elective, Minor/Vocational/and Minor C-Curricular
- Minor/Vocational is qualifying.

<b>Semester-IV</b>		
<b>(a) Major I: Physics (Subject-1)</b>		
<b>COURSE CODE</b>	<b>PAPER TITLE</b>	<b>CREDIT</b>
PHY 203 (B010401T)	Modern Physics& Electronics	4+0
PHY 204 (B010402P)	Practical (Basic Electronics Instrumentation)	0+2
<b>Major II: Mathematics (Subject-2)</b>		
MAT 203 (B030401T)	Differential Equation	3+0
MAT 204 (B030402T)	Mechanics	3+0
<b>Major III: Statistics (Subject-3)</b>		
STA 203 (B060401T)	Testing of Hypothesis and Applied Statistics	4+0
STA 204 (B060402T)	Testing of Significance and Applied Statistics Lab	0+2
<b>(b) Minor Elective</b>		
ENG 108	Advanced Writing Skills and Critical Thinking	2+0
STAT 200	Data Science II	1+1
BOT 107	Resource Management and Zero Waste Campus	2+0
HND 100	Rashtra Gaurav (Compulsory)	2+0
MAT 200	Foundation of Mathematics II	2+0
DSS 200	Disaster Management Mechanism in India	2+0
DSS 100	Concepts of War	2+0
<b>(c) Minor Co-curriculum</b>		
NCC 100	National Cadet Corps	0+2
NSS 100	National Service Scheme	0+2
RR 100	Rovers & Rangers	0+2
PHED 100	Sports (any)	0+2
FMV 105	Cultural Activities	0+2
HSC 100	Nutrition, Health and Hygiene	2+0
PSY 100	Communication Skills and Personality Development	2+0
<b>(d) Minor Vocational</b>		
COMP 203	Animation	0+2
COMM 203	Finance & Baking	0+2
LAW 203	Cyber Laws	0+2

**Fourth Semester**

- Minimum of 2 credits required for Minor/Elective, Minor/Vocational/and Minor C-Curricular
- Minor/Vocational is qualifying.

<b>Semester-V</b>		
<b>(a) Major I: Physics(Subject-1)</b>		
<b>COURSE CODE</b>	<b>PAPER TITLE</b>	<b>CREDIT</b>
PHY 301 (B010501T)	Classical Mechanics & Statistical Mechanics	4+0
PHY 302 (B010502T)	Quantum Mechanics & Spectroscopy	4+0
PHY 303 (B010503P)	Practical (Demonstrative Aspects of Optics & Lasers)	0+2
<b>Major II: Mathematics(Subject-2)</b>		
MAT 301 (B030501T)	Ring Theory and Linear Algebra	4+0
MAT 302 (B030502T)	Tensor Analysis	3+0
MAT 303 (B030503T)	Differential Geometry	3+0
<b>(c) Minor Co-curriculum</b>		
NCC 100	National Cadet Corps	0+2
NSS 100	National Service Scheme	0+2
RR 100	Rovers & Rangers	0+2
PHED 100	Sports (any)	0+2
FMV 100	Cultural Activities	0+2
HSC 100	Nutrition, Health and Hygiene	2+0
PSY 100	Communication Skills and Personality Development	2+0
<b>(d) Minor Vocational</b>		
<b>PLC 101</b>	Industrial Training/ Project	<b>0+2</b>

- Minimum of 2 credits required for Minor Co-Curricular Courses

<b>Semester-VI</b>		
<b>(a) Major I: Physics(Subject-1)</b>		
<b>COURSE CODE</b>	<b>PAPER TITLE</b>	<b>CREDIT</b>
PHY 304 (B010601T)	Solid State Physics & Nuclear Physics	4+0
PHY 305 (B010601T)	Analog & Digital - Principles & Applications	4+0
PHY 306 (B010603P)	Practical (Analog & Digital Circuits)	0+2
<b>Major II: Mathematics(Subject-2)</b>		
MAT 304 (B030601T)	Matric Space and Complex Analysis	4+0
MAT 305 (B030602T)	Numerical Analysis and Operational Research	4+0
MAT 306 (B030603P)	Practical	0+2
<b>(c) Minor Co-curriculum</b>		
NCC 100	National Cadet Corps	0+2
NSS 100	National Service Scheme	0+2
RR 100	Rovers & Rangers	0+2
PHED 100	Sports (any)	0+2
FMV 100	Cultural Activities	0+2
HSC 100	Nutrition, Health and Hygiene	2+0
PSY 100	Communication Skills and Personality Development	2+0
<b>(d) Minor Vocational</b>		
<b>PLC 101</b>	Industrial Training/ Project	<b>0+2</b>

**Sixth Semester**

- Minimum of 2 credits required for Minor Co-Curricular Courses

