

## B. Sc.-B.Ed. Disciplinary/inter-disciplinary with major in Mathematics

Disciplinary (Mathematics major)		Inter-disciplinary (Mathematics major)	
Mathematics Major:	60 credits	Mathematics Major:	48 credits
Physics: (sem 1)	3 credits	Physics: (sem 1)	3 credits
Chemistry: (sem 1)	3 credits	Chemistry: (sem 1)	3 credits
Seminar: (sem 6)	2 credits	Physics/Chemistry (sem 3-6):	10 credits
Departmental elective : (sem 6)	2/4 credits		
<b>Total :</b>	<b>70/72 credits</b>	<b>Total :</b>	<b>64 credits</b>

**Credit Structure:** 96 (from HSS+pedagogy courses)+64 (Mathematics and Physical Sciences\*)=160 credits for Interdisciplinary degree with major in Mathematics and 96 (from HSS+pedagogy courses) + 6 (Physics and Chemistry)+64 (Mathematics)=166, for Disciplinary degree with major in Mathematics.

**B.Sc.-B.Ed ( Disciplinary ):** Students who opt for this program are required to complete a minimum of 64 credits in disciplinary subject+ 6 credits from Physics and Chemistry courses in first semester+96 credits (from HSS and pedagogy courses).

**\*B.Sc.B.Ed ( Interdisciplinary with major in mathematics ):** Students who opt for this program are required to complete a total of 64 credits from Mathematics and Physical Sciences, of which 48 credits must be earned from mathematics courses+ 96 credits (from HSS and pedagogy courses).

**The detailed course curricular structure is given below:**

**Year 1:**

<b>Semester 1 HSS /B.Ed. 12 credits, Science 10 credits</b>								
<b>Disciplinary</b>					<b>Inter-disciplinary</b>			
Sr. no.	Course name	Course Code	LTP	Credit	Course name	Course Code	LTP	Credit
1	Language 1: English	HB101	4-0-0-8	4	Language 1: English	HB101	4-0-0-8	4
2	Understanding India (Indian Ethos and Knowledge Systems)	HB102	2-0-0-4	2	Understanding India (Indian Ethos and Knowledge Systems)	HB102	2-0-0-4	2
3	Evolution of Indian Education	HB103	4-0-0-8	4	Evolution of Indian Education	HB103	4-0-0-8	4
4	Art Education (Performing and Visual) 1	HB104	2-0-0-4	2	Art Education (Performing and Visual) 1	HB104	2-0-0-4	2
5	<b>Introductory Physics</b>	<b>PB101</b>	<b>3-1-0-5-3</b>	<b>3</b>	<b>Introductory Physics</b>	<b>PB101</b>	<b>3-1-0-5-3</b>	<b>3</b>
6	<b>Introductory Chemistry</b>	<b>CB101</b>	<b>3-1-0-5-3</b>	<b>3</b>	<b>Introductory Chemistry</b>	<b>CB101</b>	<b>3-1-0-5-3</b>	<b>3</b>
7	<b>Calculus</b>	<b>MB101</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Calculus</b>	<b>MB101</b>	<b>4-0-0-8</b>	<b>4</b>
				<b>22</b>				<b>22</b>

<b>Semester 2 HSS /B.Ed. 8 credits, Science 13 credits</b>								
<b>Disciplinary</b>					<b>Inter-disciplinary</b>			
Sr. no.	Course name	Course Code	LTP	Credit	Course name	Course Code	LTP	Credit
1	Language 2 (as per the 8th schedule of the Constitution of India). Sanskrit	HB105	4-0-0-8	4	Language 2 (as per the 8th schedule of the Constitution of India). Sanskrit	HB105	4-0-0-8	4
2	Understanding India (Indian Ethos and Knowledge Systems)	HB106	2-0-0-4	2	Understanding India (Indian Ethos and Knowledge Systems)	HB106	2-0-0-4	2
3	Teacher and Society	HB107	2-0-0-4	2	Teacher and Society	HB107	2-0-0-4	2
4	<b>Discrete Mathematics</b>	<b>MB102</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Discrete Mathematics</b>	<b>MB102</b>	<b>4-0-0-8</b>	<b>4</b>
5	<b>Matrices and Linear Algebra</b>	<b>MB103</b>	<b>4-0-2-9</b>	<b>5</b>	<b>Matrices and Linear Algebra</b>	<b>MB103</b>	<b>4-0-2-10</b>	<b>5</b>
6	<b>Coordinate Geometry and Trigonometry</b>	<b>MB104</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Coordinate Geometry and Trigonometry</b>	<b>MB104</b>	<b>4-0-0-8</b>	<b>4</b>
				<b>21</b>				<b>21</b>

## Year 2:

<b>Semester 3 HSS /B.Ed. 12 credits, Science 12 credits</b>								
<b>Disciplinary</b>					<b>Inter-disciplinary</b>			
Sr. no.	Course name	Course Code	LTP	Credit	Course name	Course Code	LTP	Credit
1	Child Development & Education Psychology	HB201	4-0-0-8	4	Child Development & Education Psychology	HB201	4-0-0-8	4
2	Basics of pedagogy	HB202	4-0-0-8	4	Basics of pedagogy	HB202	4-0-0-8	4
3	<b>Algebra</b>	<b>MB201</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Algebra</b>	<b>MB201</b>	<b>4-0-0-8</b>	<b>4</b>
4	<b>Advanced Calculus</b>	<b>MB202</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Advanced Calculus</b>	<b>MB202</b>	<b>4-0-0-8</b>	<b>4</b>
5	<b>Probability and Statistics</b>	<b>MB204</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Any course(s) from Physics or Chemistry</b>			<b>P1</b>
				<b>20</b>				<b>16+P1</b>

<b>Semester 4 HSS /B.Ed. 12 credits Science 12 credits</b>								
<b>Disciplinary</b>					<b>Inter-disciplinary</b>			
Sr. no.	Course name	Course Code	LTP	Credit	Course name	Course Code	LTP	Credit
1	Philosophical and Sociological perspectives of education-1	HB203	4-0-0-8	4	Philosophical and Sociological perspectives of education-1	HB203	4-0-0-8	4
2	<b>Pedagogy in Mathematics</b>	<b>MB200</b>	<b>3-0-2-7</b>	<b>4</b>	<b>Pedagogy in Mathematics</b>	<b>MB200</b>	<b>3-0-2-7</b>	<b>4</b>
3	<b>Ordinary Differential Equations</b>	<b>MB203</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Ordinary Differential Equations</b>	<b>MB203</b>	<b>4-0-0-8</b>	<b>4</b>
4	<b>Real &amp; Complex Analysis</b>	<b>MB205</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Real &amp; Complex Analysis</b>	<b>MB205</b>	<b>4-0-0-8</b>	<b>4</b>
5.	<b>Number Theory</b>	<b>MB206</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Any course(s) from Physics or Chemistry</b>			<b>P2</b>
				<b>20</b>				<b>16+P2</b>

### Year 3:

Semester 5 HSS /B.Ed. 12 credits Science 8 credits								
Disciplinary					Inter-disciplinary			
Sr. no.	Course name	Course Code	LTP	Credit	Course name	Course Code	LTP	Credit
1	<b>Pedagogy in Physics*</b>	<b>PBXXX</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Pedagogy in Physics</b>	<b>PBXXX</b>	<b>4-0-0-8</b>	<b>4</b>
2	ICT in education	HB302	2-0-0-4	2	ICT in education	HB302	2-0-0-4	2
3	Pre-internship practice (demonstrations lessons, peer teaching)	HB303	2-0-0-2	2	Pre-internship practice (demonstrations lessons, peer teaching)	HB303	2-0-0-2	2
4	<b>Computer programming</b>	<b>MB301</b>	<b>4-0-2-9</b>	<b>5</b>	<b>Computer programming</b>	<b>MB301</b>	<b>4-0-2-8</b>	<b>5</b>
5	<b>Optimization Techniques</b>	<b>MB302</b>	<b>4-0-2-9</b>	<b>5</b>	<b>Optimization Techniques</b>	<b>MB302</b>	<b>4-0-2-10</b>	<b>5</b>
6	<b>Special Functions and Integral Transforms</b>	<b>MB303</b>	<b>4-0-0-8</b>	<b>4</b>	<b>Any course(s) from Physics or Chemistry</b>			<b>P3</b>
				<b>22</b>				<b>18+P3</b>

\*Course code and structure needs to be filled after consultation with Physics department.

Semester 6 HSS /B.Ed. 12 credits Science 8 credits								
Disciplinary					Inter-disciplinary			
Sr. no.	Course name	Course Code	LTP	Credit	Course name	Course Code	LTP	Credit
1*	<b>Pedagogy in Chemistry</b>		<b>4-0-0-8</b>	<b>4</b>	<b>Pedagogy in Chemistry</b>		<b>4-0-0-8</b>	<b>4</b>
2	Assessment and Evaluation	HB305	2-0-0-4	2	Assessment and Evaluation	HB305	2-0-0-4	2
3	Inclusive education	HB306	2-0-0-2	2	Inclusive education	HB306	2-0-0-2	2
4	Mathematical and Quantitative reasoning	HBXXX	2-0-0-4	2	Mathematical and Quantitative reasoning	HBXXX	2-0-0-4	2
5	School Observation (Field practice)	HB308	3-0-0-6	2	School Observation (Field practice)	HB308	3-0-0-6	2
6	<b>Numerical Analysis</b>	<b>MB304</b>	<b>4-0-2-9</b>	<b>5</b>	<b>Numerical Analysis</b>	<b>MB304</b>	<b>4-0-2-10</b>	<b>5</b>
7	<b>Seminar</b>	<b>MB300</b>		<b>2</b>	<b>Any course(s) from Physics or Chemistry (if P1+P2+P3 &lt;10)</b>			<b>P4</b>
8	<b>Departmental Elective</b>			<b>2/4</b>				
<b>Total Credits</b>				<b>21/23</b>	<b>Total Credits</b>			<b>17+P4</b>

\*Course code and structure needs to be filled after consultation with the Chemistry department. Note that students opting for inter-disciplinary B.Sc.-B.Ed. with major in Mathematics, should take courses such that  $P1+P2+P3+P4 \geq 10$ .

## Year 4:

The courses are common for students who have opted for either the Disciplinary or Interdisciplinary track in their 7th and 8th semesters.

<b>Semester 7 HSS /B.Ed. 20 credits Science -NA</b>					
Sr. no.	Course name	Course Code	LTP	Credit	
1	Perspective on school leadership and management	HB401	2-0-0-4	2	
2	Curriculum planning and development	HB402	2-0-0-4	2	
3	Art Education (Performing and Visual)	HB403	2-0-0-4	2	
4	Sports, Nutrition and Fitness		2-0-0-4	2	
5	School Based research project	HB404	2-0-0-6	2	
6	Internship in Teaching	HB406		10	
				<b>20</b>	

<b>Semester 8</b>					
Sr. no.	Course name	Course Code	LTP	Credit	
1	Philosophical and Sociological perspectives of education-2	HB407	4-0-0-8	4	
2	Education Policy Analysis	HB408	2-0-0-4	2	
3	Elective	HB409	4-0-0-8	4	
4	Yoga and understanding self	HB410	2-0-0-4	2	
5	Citizenship Education, Sustainability and Environment Education	HB411	2-0-0-6	2	
6	Post Internship (Review and analysis)	HB412	2-0-0-4	2	
7	Creating Teaching Learning Material/ work experience (Education Toy Making, local/ traditional vocations. Etc.)	HB413	2-0-0-4	2	
8	Community Engagement and Service (Participation in NSS-related activities, New India Literacy Programme etc.0	HB414		2	
				<b>20</b>	