

**CBCS SYLLABUS**  
**FOR**  
**THREE YEARS UNDER-GRADUATE COURSE**  
**IN**  
**B.Sc. Mathematics (HONOURS)**  
*(w.e.f. 2017)*



**BANKURA UNIVERSITY**  
**BANKURA**  
**WEST BENGAL**  
**PIN 722155**

**STRUCTURE IN MATHEMATICS (HONOURS)****SEMESTER – I**

Course Code	Course Title	Credit	Marks			No. of Hours		
			I.A.	ESE	Total	Lec.	Tu.	Pr.
SH/MTH/101/C-1	Calculus, Geometry & Differential Equation	6	10	40	50			
SH/MTH/102/C-2	Algebra	6	10	40	50			
SH/MTH/103/GE-1	<b>Any one of the following</b> Calculus, Geometry & Differential Equation (GE T1)	6	10	40	50			
ACSHP/104/AECC-1	Environmental Studies	4	10	40	50			
<b>Total in Semester - I</b>		<b>22</b>	<b>40</b>	<b>160</b>	<b>200</b>			

**SEMESTER – II**

Course Code	Course Title	Credit	Marks			No. of Hours		
			I.A.	ESE	Total	Lec.	Tu.	Pr.
SH/MTH/201/C-3	Real Analysis	6	10	40	50			
SH/MTH/202/C-4	Differential Equations and Vector Calculus	6	10	40	50			
SH/MTH/203/GE-2	<b>Any one of the following</b> Real Analysis (GE T3)	6	10	40	50			
ACSHP/204/AECC-2	English/Hind/MIL	2	10	40	50			
<b>Total in Semester - II</b>		<b>20</b>	<b>40</b>	<b>160</b>	<b>200</b>			

**SEMESTER –III**

Course Code	Course Title	Credit	Marks			No. of Hours		
			I.A.	ESE	Total	Lec.	Tu.	Pr.
SH/MTH/ 301/C-5	Theory of Real Functions & Introduction to Metric Space	6	10	40	50			
SH/MTH/ 302/ C-6	Group Theory-I	6	10	40	50			
SH/MTH /303/C-7	Numerical Methods Numerical Methods Lab	6	10	40	50			
SH/MTH / 304/GE-3	<b>Any one of the following</b> Algebra (GET2)	6	10	40	50			
SH/MTH / 305/SEC-1	<b>Any one of the following</b> Pogramming using C (New) Logic and Sets (SEC T1)	2	10	40	50			
<b>Total in Semester - III</b>		<b>26</b>	<b>50</b>	<b>200</b>	<b>250</b>			

**SEMESTER –IV**

Course Code	Course Title	Credit	Marks			No. of Hours		
			I.A.	ESE	Total	Lec.	Tu.	Pr.
SH/MTH /401/C-8	Riemann Integration and Series of Functons	6	10	40	50			
SH/MTH /402/C-9	Multivariate Calculus	6	10	40	50			
SH/MTH /403/C-10	Ring Theory and Linear Algebra-I	6	10	40	50			
SH/MTH /404/GE-4	<b>Any one of the following</b> Differential Equations and Vector Calculus (GET4)	6	10	40	50			
SH/MTH / 405/SEC-2	<b>Any one of the following</b> Graph Theory (SEC T4) Operating System: Linux (SEC T5)	2	10	40	50			
<b>Total in Semester - IV</b>		<b>26</b>	<b>50</b>	<b>200</b>	<b>250</b>			

**SEMESTER – V**

Course Code	Course Title	Credit	Marks			No. of Hours		
			I.A.	ESE	Total			
SH/MTH / 501/C-11	Partial Differential Equations and Applications	6	10	40	50			
SH/MTH / 502/C-12	Group Theory - II	6	10	40	50			
SH/MTH / 503/DSE-1	<b>Any one of the following</b>	6	10	40	50			
	Linear Programming (DSE T1)							
	Theory of Equations (DSE T2)							
SH/MTH / 504/DSE-2	<b>Any one of the following</b>	6	10	40	50			
	Point Set Topology (DSE T3)							
	Probability and Statistics (DSE T4)							
	Boolean Algebra and Automata (DSE T6)							
<b>Total in Semester – V</b>		<b>24</b>	<b>40</b>	<b>160</b>	<b>200</b>			

**SEMESTER – VI**

Course Code	Course Title	Credit	Marks			No. of Hours		
			I.A.	ESE	Total	Lec.	Tu.	Pr.
SH/MTH / 601/C-13	Metric Spaces and Complex Analysis	6	10	40	50			
SH/MTH / 602/C-14	Ring Theory and Linear Algebra II	6	10	40	50			
SH/MTH / 603/DSE-3	<b>Any one of the following</b>	6	10	40	50			
	Number Theory (DSE T7)							
	Mechanics (DSE T9)							
SH/MTH/ 604/DSE-4	<b>Any one of the following</b>	6	10	40	50			
	Bio-Mathematics (DSE T10)							
	Mathematical Modelling (DSE T12)							
	Project Work							
<b>Total in Semester – VI</b>		<b>24</b>	<b>40</b>	<b>160</b>	<b>200</b>			

SH= Science Honours, MTH=Mathematics, ACSHP= Arts Commerce Science Honours Pass, C= Core Course, AECC= Ability Enhancement Compulsory Course, SEC= Skill Enhancement Course, GE= Generic Elective, DSE= Discipline Specific Elective IA= Internal Assessment, ESE= End-Semester Examination, Lec.=Lecture, Tu.= Tutorial, and Prc.=Practical