

**Kalyani Mahavidyalaya**  
**Department of Mathematics**

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**Programme offered : B.Sc in Mathematics Honours**

**Duration : 6 Semesters**  
**Total Credit : 140**

**Course Outcome of CBCS System**

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<b>Sl. No.</b>	<b>Programme Outcomes(PO)</b>
<b>A</b>	To prepare the students for a successful career in teaching or other professions as well as to motivate them for higher education and to take research as a career. Ability to pursue advanced studies and research in pure and applied mathematical sciences.
<b>B</b>	Acquire good knowledge and understanding in advanced areas of mathematics and its applications. More specifically, enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study. To develop communication skills, prepare effective presentations.
<b>C</b>	To inculcate scientific temperament in the young minds and outside the scientific community.
<b>D</b>	To develop individual and team work by functioning effectively as an individual or as a member in a group in computer laboratory classes.
<b>E</b>	To develop the ability to engage in independent and life-long learning in the current context of technological change.
<b>F</b>	To develop computational , logical and analyzing ability in solving different problems of Mathematics. Ability to analyze a problem, identify and define the computing requirements, which may be appropriate to its solution.
<b>G</b>	Enhancing students' overall development and equipping them with mathematical modeling abilities, problem solving skills, creative talent and power of communication necessary for various kinds of employment.
<b>H</b>	To identify, formulate and analyze complex scientific problems reaching substantiated conclusions.

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<b>Sl. No.</b>	<b>Programme Specific Outcomes(PSO)</b>
<b>1</b>	Students will be able to apply critical thinking skills to solve problems that can be modeled mathematically, to critically interpret numerical and graphical data, to read and construct mathematical arguments and proofs, to use computer technology appropriately to solve problems and to promote understanding.
<b>2</b>	To acquire good knowledge and understanding in advanced areas of mathematics and statistics, chosen by the student from the given courses. Understand, formulate and use quantitative models arising in social science, Business and other contexts.
<b>3</b>	To apply knowledge in emerging and varied areas of Mathematics for higher studies, research and industries related to software applications. To apply mathematical knowledge to a career related to mathematical sciences thus cultivating a proper attitude for higher learning in mathematics.
<b>4</b>	To equip with front level communication technologies (ICT) for innovating ideas and solutions to existing/novel challenges. Formulate and develop mathematical arguments in a logical manner.

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**Mapping of PO & PSO for Mathematics Hons Syllabus of University of Kalyani**

Programme Specific outcomes(PSO)	Programme Outcomes(PO)							
	A	B	C	D	E	F	G	H
1	✓	✓	✓	✓	✓		✓	✓
2	✓			✓	✓		✓	✓
3	✓	✓	✓			✓	✓	✓
4	✓					✓	✓	✓

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**Programme Outcome mapping for Partial Semester wise Courses in Mathematics Honours  
under University of Kalyani**

Table 1

Course Duration	Course Details	Programme Outcome(PO)							
		A	B	C	D	E	F	G	H
Semester I CC01 & CC02	CC01:Calculus & Analytical Geometry	✓	✓	✓	✓		✓		✓
	CC02:Algebra	✓	✓	✓	✓	✓		✓	

Table 2

Course Duration	Course Details	Programme Outcome(PO)							
		A	B	C	D	E	F	G	H
Semester II CC03 & CC04	CC03:Real Analysis	✓	✓	✓	✓		✓	✓	
	CC04:Differential Equations	✓		✓	✓	✓	✓	✓	✓

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Table 3

Course Duration	Course Details	Programme Outcome(PO)							
		A	B	C	D	E	F	G	H
Semester III CC05, CC06, CC07 & SEC 1A	CC05:Theory of Real & Vector Functions	✓	✓	✓	✓		✓	✓	
	CC06:Group Theory-I	✓	✓	✓	✓	✓		✓	
	CC07:Numerical Methods (Theory) & Numerical Methods Lab	✓	✓	✓	✓	✓	✓	✓	✓
	SEC1A:Programming in 'C'	✓		✓	✓	✓	✓	✓	✓

Table 4

Course Duration	Course Details	Programme Outcome(PO)							
		A	B	C	D	E	F	G	H
Semester IV CC08, CC09, CC10 & SEC2A	CC08:Ring Theory & Linear Algebra	✓	✓	✓	✓		✓	✓	
	CC09:Multivariate Calculus & Tensor Analysis	✓	✓		✓	✓	✓		✓
	CC10:Linear Programming Problems & Game Theory	✓	✓	✓	✓		✓		✓
	SEC2B:Graph Theory	✓	✓	✓	✓		✓	✓	✓

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Table 5

Course Duration	Course Details	Programme Outcome(PO)							
		A	B	C	D	E	F	G	H
Semester V CC11, CC12, DSE1A & DSE2A	CC11:Riemann Integration & Series of Functions	✓	✓		✓		✓	✓	
	CC12:Mechanics-I	✓	✓	✓	✓		✓		
	DSE1B:Partial Differential Equations & Laplace Transforms	✓	✓		✓		✓		✓
	DSE2A:Number Theory	✓	✓		✓		✓	✓	

Table 6

Course Duration	Course Details	Programme Outcome(PO)							
		A	B	C	D	E	F	G	H
Semester VI CC13, CC14, DSE3A & DSE4A	CC13:Metric Spaces & Complex Analysis	✓	✓	✓	✓		✓	✓	
	CC14:Probability & Statistics	✓	✓	✓	✓	✓	✓	✓	
	DSE3A:Fuzzy Set Theory	✓	✓	✓	✓		✓	✓	✓
	DSE4A:Point Set Topology	✓	✓		✓	✓	✓	✓	