

GOUR MAHAVIDYALAYA

DEPARTMENT OF MATHEMATICS



P.O.- Mangalbari, Dist. : Malda. Pin – 732142 (W.B.)
Phone : 03512- 260547; Fax 03512-260547

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(2nd cycle) B+

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B.Sc (Honours) in Mathematics Course Structure under CBCS (2022-23 Session)

Academic Semesters	COURSES					Total Credits	Total Marks
	Discipline Core (DC)	Discipline Specific Elective (DSE)	Generic Elective (GE)	Ability Enhancement Compulsory (AEC)	Skill Enhancement Course (SEC)		
SEM-I	DC01 (6)		GE01 (6)	AEC1 (2)		20	200
	DC02 (6)						
SEM-II	DC03 (6)		GE02 (6)	AEC2 (2)		20	200
	DC04 (6)						
SEM-III	DC05 (6)		GE03 (6)			24	200
	DC06 (6)						
	DC07 (6)						
SEM-IV	DC08 (6)		GE04 (6)			24	200
	DC09 (6)						
	DC10 (6)						
SEM-V	DC11 (6)	DSE1 (6)			SEC01 (2)	26	250
	DC12 (6)	DSE2 (6)					
SEM-VI	DC13 (6)	DSE3 (6)			SEC02 (2)	26	250
	DC14 (6)	DSE4 (6)					

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B.Sc (Honours) in Mathematics Curriculum Plan under CBCS (2022-23 Session)

Academic Semesters	COURSES- B.Sc (Honours) in Mathematics								Total Credits	Total Marks
	Discipline Core (DC)	Name of the Courses	Name of the Units	Name of the Teacher	Number of Allotted Classes (Hours)	Duration of the Course (Tentative)	Materials and Resources	Student Success & Evaluation Methods.		
SEM-I	DC01	Calculus & Geometry	Unit-1	Dr. TILAK KUMAR PAUL	11+ 1(Exam)	September-6 Classes, November-5 Classes	1. S.L. Loney, The Elements of Coordinate Geometry, Macmillan and Co., 1895. 2. G.B. Thomas and R.L. Finney, Calculus, 9th Ed., Pearson, 2005. 3. M.J. Strauss, G.L. Bradley and K.J. Smith, Calculus, 3rd Ed., Pearson Education, 2007.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	Dr. TILAK KUMAR PAUL	11+ 1(Exam)	February-3 Classes, January-5 Classes December-6 Classes				
			Unit-3	RAKESH SARKAR	12+ 1(Exam)	November-5 Classes, September-4 Classes				
			Unit-4	RAKESH SARKAR	12+ 1(Exam)	February 2 Classes, January-5 Classes December- 4 Classes				
	DC02	Algebra	Unit-1	MD SAHID ALAM	11+ 1(Exam)	November-5 Classes, September-6 Classes	1. T. Andreescu and D. Andrica, Complex Numbers from A to . . . Z, Birkhauser Boston, 2008. 2. D.C. Lay, S.R. Lay and J.J. McDonald,	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	MD SAHID ALAM	6+ 1(Exam)	January-3 Classes December-3 Classes				
			Unit-3	POLY KARMAKA R	11+ 1(Exam)	November-5 Classes, September-4 Classes				
			Unit-4	POLY KARMAKA R	11+ 1(Exam)	February 2 Classes, January-5 Classes December- 4 Classes				

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							<p>Linear Algebra and its Applications, 5rd Ed., Pearson, 2014.</p> <p>3. K.B. Dutta, Matrix and linear algebra, Prentice Hall, 2004.</p> <p>4. K. Hoffman and R. Kunze, Linear algebra, Prentice Hall, 1971.</p>			
SEM-II	DC03	Real Analysis I	Unit-1	POLY KARMAKA R	11+ 1(Exam)	March-5 Classes, April-6 Classes	<p>1. Plotting of recursive sequences.</p> <p>2. Study the convergence of sequences through plotting.</p> <p>3. Verify Bolzano-Weierstrass theorem through plotting of sequences and hence identify convergent subsequences from the plot.</p>	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	POLY KARMAKA R	11+ 1(Exam)	June-5 Classes, May-6 Classes				
			Unit-3	MD SAHID ALAM	11+ 1(Exam)	April-6 Classes, March-5 Classes				
			Unit-4	MD SAHID ALAM	11+ 1(Exam)	June-6 Classes, May-6 Classes				
	DC04	Abstract Algebra	Unit-1	Dr. TILAK KUMAR PAUL	11+ 1(Exam)	April-6 Classes, March-5 Classes	<p>1. J.B. Fraleigh, A First Course in Abstract Algebra, 7th Ed., Pearson, 2002</p>	Assignments, Class Tests, Seminar, Quiz	6	50
			Unit-2	Dr. TILAK KUMAR PAUL	11+ 1(Exam)	June-5 Classes, May-6 Classes				

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			Unit-3	RAKESH SARKAR	11+ 1(Exam)	March-5 Classes, April-6 Classes	2. M. Artin, Abstract Algebra, 2nd Ed., Pearson, 2011. 3. J.A. Gallian, Contemporary Abstract Algebra, 8th Ed., Houghton Mi_in, 2012.			
			Unit-4	RAKESH SARKAR	11+ 1(Exam)	June-5 Classes, May-6 Classes				
SEM-III	DC05	Real Analysis II	Unit-1	MD SAHID ALAM	6+ 1(Exam)	July-6 Classes	1. R. Bartle and D.R. Sherbert, Introduction to Real Analysis, John Wiley and Sons, 2003. 2. K.A. Ross, Elementary Analysis: The Theory of Calculus, Springer, 2004. 3. A. Mattuck, Introduction to Analysis, Prentice Hall, 1999.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	POLY KARMAKAR	9+ 1(Exam)	August-9 Classes				
			Unit-3	MD SAHID ALAM	9+ 1(Exam)	November-5 Classes, September -6 Classes				
			Unit-4	POLY KARMAKAR	6+ 1(Exam)	December-6 Classes				
	DC06	Linear Algebra	Unit-1	POLY KARMAKAR	12+ 1(Exam)	July-7 Classes, August-5 Classes	1. S.H. Friedberg, A.J. Insel and L.E. Spence, Linear Algebra, 4th Ed., PHI, 2004.	Assignments, Class Tests, Seminar, Quiz,	6	50
			Unit-2	POLY KARMAKAR	11+ 1(Exam)	September -6 Classes, August-5 Classes				

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			Unit-3	POLY KARMAKAR	12+ 1(Exam)	November-9 Classes, October -3 Classes	2. J.B. Fraleigh, A First Course in Abstract Algebra, 7th Ed., Pearson, 2002. 3. M. Artin, Abstract Algebra, 2nd Ed., Pearson, 2011.				
			Unit-4	POLY KARMAKAR	11+ 1(Exam)	January -2 Classes, December -9 Classes					
	DC07	Multivariate Calculus & Vector Calculus	Unit-1	RAKESH SARKAR	12+ 1(Exam)	August-6 Classes, July-6 Classes	1. G.B. Thomas and R.L. Finney, Calculus, 9th Ed., Pearson, 2005. 2. M.J. Strauss, G.L. Bradley and K. J. Smith, Calculus, 3rd Ed., Pearson, 2007. E. Marsden, A.J. Tromba and A. Weinstein, Basic Multivariable Calculus, Springer, 2005	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50	
			Unit-2	POLY KARMAKAR	11+ 1(Exam)	September -6 Classes, August-5 Classes					
			Unit-3	RAKESH SARKAR	12+ 1(Exam)	November-10 Classes, October -2 Classes					
			Unit-4	RAKESH SARKAR	11+ 1(Exam)	January -3 Classes, December -8 Classes					
	SEM-IV	DC08	Differential Equations	Unit-1	POLY KARMAKAR	11+ 1(Exam)	July-7 Classes, August-4 Classes	1. G.F. Simmons, Differential Equations with Applications and Historical Notes, McGraw Hill, 2017. 2. S.L. Ross, Differential Equations, 3rd Ed., Wiley, 2007.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
				Unit-2	POLY KARMAKAR	13+ 1(Exam)	September-4 Classes, August-9 Classes				
Unit-3				Dr. TILAK KUMAR PAUL	12+ 1(Exam)	September-8 Classes, November-4 Classes					
Unit-4				Dr. TILAK KUMAR PAUL	11+ 1(Exam)	December-8 Classes, November-3 Classes					

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	DC09	Mechanics	Unit-1	MD SAHID ALAM	12+ 1(Exam)	August-3 Classes, July-9 Classes	1. R.D. Gregory, Classical mechanics, Cambridge University Press, 2006. 2. K.R. Symon, Mechanics, Addison Wesley, 1971. 3. M. Lunn, A First Course in Mechanics, Oxford University Press, 1991.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	MD SAHID ALAM	11+ 1(Exam)	September-3 Classes, August-8 Classes				
			Unit-3	MD SAHID ALAM	11+ 1(Exam)	November-4 Classes, September-7 Classes				
			Unit-4	MD SAHID ALAM	15+ 1(Exam)	November-9 Classes, December-6 Classes				
	DC10	Probability & Statistics	Unit-1	RAKESH SARKAR	11+ 1(Exam)	July-7 Classes, August-5 Classes	1. Miller and M. Miller, John E. Freund's Mathematical Statistics with Applications, 7th Ed., Pearson, 2006. 2. S. Ross, Introduction to Probability Models, 9th Ed., Academic Press, 2007. R.B. Ash, Basic Probability Theory, Dover Publications, 2008	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	RAKESH SARKAR	11+ 1(Exam)	September-3 Classes, August-8 Classes				
			Unit-3	RAKESH SARKAR	11+ 1(Exam)	November-4 Classes, September-7 Classes				
			Unit-4	RAKESH SARKAR	13+ 1(Exam)	December-5 Classes, November-8 Classes				
SEM-V	DC11	Advanced Analysis on R & C	Unit-1	POLY KARMAKAR	12+ 1(Exam)	July-7 Classes, August-5 Classes	S. Shirali and H.L. Vasudeva, Metric Spaces, Springer Verlag, London, 2006. S. Kumaresan, Topology of Metric Spaces, 2nd Ed., Narosa Publishing House, 2011.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	POLY KARMAKAR	11+ 1(Exam)	November-5 Classes, September -6 Classes				
			Unit-3	POLY KARMAKAR	12+ 1(Exam)	July-7 Classes, August-5 Classes				
			Unit-4	POLY KARMAKAR	15+ 1(Exam)	August-9 Classes, September -6 Classes				

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DC12	Numerical Methods & C Programming Language	Unit-1	Dr. TILAK KUMAR PAUL	155+ 1(Exam)	August-9 Classes, September -6 Classes	1. K.E. Atkinson, An Introduction to Numerical Analysis, John Wiley and Sons, 1978. 2. B.W. Kernighan and D. Ritchie, The C Programming Language, Prentice Hall, 1988.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
		Unit-2	Dr. TILAK KUMAR PAUL	12+ 1(Exam)	July-7 Classes, August-5 Classes				
		Unit-3	RAKESH SARKAR	15+ 1(Exam)	August-9 Classes, September -6 Classes				
		Unit-4	RAKESH SARKAR	16+ 1(Exam)	August-9 Classes, July-7 Classes,				
DSE1	Advanced Algebra	Unit-1	MD SAHID ALAM	11+ 1(Exam)	July-7 Classes, August-5 Classes	1. J.B. Fraleigh, A First Course in Abstract Algebra, 7th Ed., Pearson, 2002. 2. M. Artin, Abstract Algebra, 2nd Ed., Pearson, 2011.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
		Unit-2	MD SAHID ALAM	15+ 1(Exam)	August-9 Classes, September -6 Classes				
		Unit-3	MD SAHID ALAM	11+ 1(Exam)	April-6 Classes, March-5 Classes				
		Unit-4	MD SAHID ALAM	11+ 1(Exam)	June-5 Classes, May-6 Classes				
DSE2	Fluid Mechanics	Unit-1	MD SAHID ALAM	11+ 1(Exam)	November-4 Classes, September-7 Classes	1. G.K. Batchelor, An Introduction to Fluid Dynamics, Cambridge University Press, 1967. 2. F. Chorlton, Textbook of Fluid Dynamics, Van Nostrand Co., 1967.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
		Unit-2	MD SAHID ALAM	12+ 1(Exam)	July-7 Classes, August-5 Classes				
		Unit-3	MD SAHID ALAM	11+ 1(Exam)	June-5 Classes, May-6 Classes				
		Unit-4	MD SAHID ALAM	12+ 1(Exam)	July-7 Classes, August-5 Classes				
SEC01	Discrete Mathematics	Unit-1	RAKESH SARKAR	11+ 1(Exam)	November-4 Classes, September-7 Classes	1. .R.P. Grimaldi, Discrete Mathematics and Combinatorial Mathematics, Pearson Education, 1998. 2. P.R. Halmos, Naive Set Theory, Springer, 1974.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	2	50
		Unit-2	RAKESH SARKAR	12+ 1(Exam)	July-7 Classes, August-5 Classes				
		Unit-3	RAKESH SARKAR	11+ 1(Exam)	June-5 Classes, May-6 Classes				
		Unit-4	RAKESH SARKAR	11+ 1(Exam)	July-7 Classes, August-5 Classes				

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SEM-VI	DC13	Linear Programming Problems & Game Theory	Unit-1	RAKESH SARKAR	11+ 1(Exam)	June-5 Classes, May-6 Classes	1. M.S. Bazaraa, J.J. Jarvis and H.D. Sherali, Linear Programming and Network Flows, 2 nd Ed., Wiley, 2004. 2. P.K. Dutta, Strategies and Games: Theory and Practice, MIT Press, 1999.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	RAKESH SARKAR	11+ 1(Exam)	February 2 Classes, January-5 Classes December- 4 Classess				
			Unit-3	Dr. TILAK KUMAR PAUL	6+ 1(Exam)	January-3 Classes December-3 Classes				
			Unit-4	Dr. TILAK KUMAR PAUL	11+ 1(Exam)	March-5 Classes, April-6 Classes				
	DC14	Computer aided Laboratory(Pactical Paper)	Unit-1	RAKESH SARKAR	6+ 1(Exam)	January-3 Classes December-3 Classes	1. B.W. Kernighan and D. Ritchie, The C Programming Language, Prentice Hall, 1988.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	Dr. TILAK KUMAR PAUL	7+ 1(Exam)	February 2 Classes, January-5 Classes				
			Unit-3	MD SAHID ALAM	11+ 1(Exam)	March-5 Classes, April-6 Classes				
			Unit-4	POLY KARMAKAR	11+ 1(Exam)	February 2 Classes, January-5 Classes December- 4 Classess				
	DSE3	Point Set Topology	Unit-1	MD SAHID ALAM	11+ 1(Exam)	March-5 Classes, April-6 Classes	1. J.R. Munkres, Topology: A First Course, Prentice Hall of India, 2000. 2. J. Dugundji, Topology, Allyn and Bacon, 1966.	Assignments, Class Tests, Seminar, Quiz, Group Discussion	6	50
			Unit-2	MD SAHID ALAM	11+ 1(Exam)	January-3 Classes December-3 Classes				
			Unit-3	POLY KARMAKAR	7+ 1(Exam)	February 2 Classes, January-5 Classes				
			Unit-4	POLY KARMAKAR	11+ 1(Exam)	February 2 Classes, January-5 Classes December- 4 Classes				
	DSE4	Dissertation/Project	Unit-1	RAKESH SARKAR	11+ 1(Exam)	April-6 Classes, March-5 Classes		S e	6	50

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			Unit-2	Dr. TILAK KUMAR PAUL	6+ 1(Exam)	January-3 Classes December-3 Classes	To be suggested by the guide according to the topic of each candidate.					
			Unit-3	MD SAHID ALAM	11+ 1(Exam)	February 2 Classes, January-5 Classes December- 4 Classess						
			Unit-4	POLY KARMAKAR	11+ 1(Exam)	April-6 Classes, March-5 Classes						
	SEC02	Problem Solving Techniques in Probability & Statistics	Unit-1	RAKESH SARKAR	11+ 1(Exam)	March-5 Classes, April-6 Classes	3. Miller and M. Miller, John E. Freund's Mathematical Statistics with Applications, 7th Ed., Pearson, 2006. 4. S. Ross, Introduction to Probability Models, 9th Ed., Academic Press, 2007. R.B. Ash, Basic Probability Theory, Dover Publications, 2008	Assignments, Class Tests, Seminar, Quiz, Group Discussion			2	50
			Unit-2	Dr. TILAK KUMAR PAUL	11+ 1(Exam)	February 2 Classes, January-5 Classes December- 4 Classes						
			Unit-3	MD SAHID ALAM	11+ 1(Exam)	April-6 Classes, March-5 Classes						
			Unit-4	POLY KARMAKAR	11+ 1(Exam)	June-5 Classes, May-6 Classes						

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