


Curriculum Plan (Even Sem 2021-2022): B.Sc. Physical Sciences (Semester VI)
DSE-ii Probability Theory and Statistics

Mr. Hari Kishan Bhardwaj Assistant Professor Department of Mathematics Kalindi College University of Delhi Delhi- 110008 Mobile: +91-9868053327 E- mail harikishan@kalindi.du.ac.in		Marks Distribution	Theory	75 Marks
			Internal Assessment	25 Marks
		Classes Assigned	Lecture	3 per week
References	1.Hogg, Robert V., McKean, Joseph W., & Craig, Allen T. (2013). Introduction to Mathematical Statistics (7th ed.), Pearson Education, Inc. 2. Miller, Irwin, & Miller, Marylees (2014). John E. Freund's: Mathematical Statistics with Applications (8th ed.). Pearson Education Ltd. Indian Reprint. Dorling Kindersley. 3. Ross, Sheldon M. (2014). Introduction to Probability Models (11th ed.). Elsevier Inc.			
	Week	Topics		
	1st week Jan 1- 8, 2022	Sample space, Probability set function and examples		
	2nd week Jan 10- 15, 2022	Expectation of random variables, and some special expectations:		
	3rd week Jan 17-22, 2022	Mean, Variance, Standard deviation, Moments and moment generating function		
	4th week Jan 24-29, 2022	Characteristic function. The discrete distributions: Uniform		
	5th week Jan 31-Feb 05, 2022	Bernoulli, Binomial, Negative binomial, Geometric, and Poisson.		
	6th week Feb 7-12, 2022	The continuous distributions: Uniform		

	7th week Feb 14- 19, 2022	Gamma, and Exponential	
	8th week Feb 21-26, 2022	Normal distribution, and normal approximation to the binomial distribution.	
	9th week Feb 28- Mar 05, 2022	Correlation coefficient, Covariance,	
	10th week Mar 7-12, 2022	Calculation of covariance from joint moment generating function, Independent random variables	
	11th week Mar 21-26, 2022	Linear regression for two variables, and the method of least squares	
	12th week Mar 28-Apr 02, 2022	Chebyshev's theorem	
	13th week Apr 4-9, 2022	Statement and interpretation of the strong law of large numbers	
	14th week Apr 11-16, 2022	Central limit theorem	
	15th week Apr 18- 23, 2022	Weak law of large numbers	
	16th week Apr 25- 27, 2022	Revision	
Dispersal of classes, preparation leave and practical examination begin April 28, 2022.			