Lesson Plan

Name of the Faculty   :   Ms. Nidhi

Discipline   :   ME

Semester   : 3rd

Subject   :   MATHEMATICS (BSC-ME- 203G)

Lesson Plan Duration   : (from Aug., 2020 to Nov., 2020)

** Work Load (Lecture) per week (in hours): Lectures-02

Week	Theory	
	Lecture Day	**Topic (including assignment/test)**
1st (01/08/20) To (08/08/20)	1st	Definition of Partial Differential Equations, First order partial differential equations, solutions of first order linear PDEs
	2nd	Solution to homogenous and non-homogenous linear partial differential equations of second order by complimentary function and particular integral method
2nd (08/08/20) To (15/08/20)	1st	Second-order linear equations and their classification, Initial and boundary conditions
	2nd	Initial and boundary conditions, D'Alembert's solution of the wave equation
3rd (15/08/20) To (22/08/20)	1st	Duhamel's principle for one dimensional wave equation. Heat diffusion and vibration problems
	2nd	Separation of variables method to simple problems in Cartesian coordinates
4th (22/08/20) To (29/08/20)	1st	The Laplacian in plane, cylindrical and spherical polar coordinates, solutions with Bessel functions and Legendre functions.
	2nd	One dimensional diffusion equation and its solution by separation of variables.

5th (29/08/20) To (05/09/20)	1st	Probability spaces, conditional probability, independence; Discrete random variables
	2nd	Independent random variables, the multinomial distribution, Poisson approximation to the binomial distribution
6th (05/09/20) To (12/09/20)	1st	infinite sequences of Bernoulli trials, sums of independent random variables; Expectation of Discrete Random Variables
	2nd	Moments, Variance of a sum, Correlation coefficient, Chebyshev's Inequality
7th (12/09/20) To (19/09/20)	1st	Continuous random varibales and their properties, distribution functions and densities, normal
	2nd	exponential and gamma densities.Bivariate distributions and their properties, distribution of sums and quotients, conditional densities, Bayes' rule
8th (19/09/20) To (26/09/20)	1st	Basic Statistics, Measures of Central tendency: Moments, skewness and Kurtosis - Probability distributions: Binomial
	2nd	Poisson and Normal - evaluation of statistical parameters for these three distributions, Correlation and regression – Rank correlation
9th (26/9/20) To (03/10/20)	1st	Curve fitting by the method of least squares- fitting of straight lines, second degree parabolas and more general curves
10th (3/10/20) To (10/10/20)	2nd	Test of significance: Large sample test for single proportion, difference of proportions, Tests for single mean, difference of means, and difference of standard deviations
11th (10/10/20) To (17/10/20)	1st	Test for ratio of variances – Chisquare test for goodness of fit and independence of attributes.