

**Lesson Planning for the 2<sup>nd</sup> semester w.e. f. January to April 2018.**

**Name of College :- Dronacharya Institute Of Management and Technology**

**Name of Teacher with designation: - Gurmeet Kaur (A.P. Mathematics)**

**Department: -Mathematics**

**Class: - BCA-(1<sup>st</sup> year )- 2<sup>nd</sup> sem**

**Subject:- Mathematical Foundations -II**

<b>Months</b>	<b>Topic / Chapter To Be Covered</b>	<b>Academic activity</b>	<b>Test/ assignment</b>
January	Propositions and logical operators, Truth tables and propositions generated by a set. Equivalence and implications, Laws of logic, Mathematical system, Proposition over a universe, Mathematical induction, Quantifiers	Class seminar	Class test
February	Binary operations on a non empty set, Groups, Subgroups, Normal Subgroups, Cosets, Factor groups, Rings, Sub rings, Ideals, Factor rings, Prime ideals, Minimal ideal, Fields, direct product of groups, Isomorphism of groups and rings	Class test	Assignment

	(definitions and examples only)		
<b>March</b>	Addition and multiplication of matrices, Laws of matrix algebra, Singular and non singular matrices, Inverse of a matrix, Rank of a matrix, Rank of the product of two matrices, Systems of linear equations i.e. $AX=0$ and $AX=B$	<b>discussion</b>	<b>Class test</b>
<b>April</b>	Characteristic equations of a square matrix, Cayley-Hamilton Theorem, Eigen values and eigen vectors, Eigen values and eigen vectors of symmetric skew symmetric, Hermitian and skew – Hermitian matrices, Diagonalization of a square matrix.	<b>Question answering</b>	<b>Assignment</b>

