

## LESSON PLAN

<b>Name of Faculty</b>	:	<b>Dr. Priyanka Duhan</b>
<b>Discipline</b>	:	<b>Bachelor of Technology (ME)</b>
<b>Semester</b>	:	<b>BTech 3rd SEM</b>
<b>Subject</b>	:	<b>Mathematical Foundation for Engineers</b>
<b>Lesson plan duration</b>	:	<b>13 Weeks (from Aug. 2018 to Nov. 2018)</b>
<b>Work load (Lecture)</b>	:	<b>4 lectures per week</b>

Week	Theory	
	Lecture day	Topic (Including assignment and test)
<b>1<sup>st</sup></b>	1	Sets, their types and definition
	2	Cardinality of a set, equality of a set, Subset, Power sets, disjoint sets
	3	Universal Set, complement of a set
	4	Venn Diagrams, Union , Intersection , difference
<b>2<sup>nd</sup></b>	5	Proof of Identities of Sets
	6	Practical Applications of Sets
	7	Examples of Applications of Sets
	8	Problems on Applications of Sets
<b>3<sup>rd</sup></b>	9	Introduction & Process of the proof by induction
	10	The principle of mathematical induction
	11	Examples of PMI
	12	Applications of PMI
<b>4<sup>th</sup></b>	13	Revision of PMI
	14	Statement and proof of the binomial theorem for positive indices
	15	General and middle term in binomial expansion
	16	Simple applications of Binomial Theorem
<b>5<sup>th</sup></b>	17	Revision of Binomial Theorem
	18	Sequence and Series
	19	Arithmetic Progression (A. P.). Arithmetic Mean (A.M.)
	20	Geometric Progression (G.P.), general term of a G.P & its sum
<b>6<sup>th</sup></b>	21	Geometric mean (G.M.), relation between A.M. and G.M
	22	Revision of Sequences
	23	Sessional
	24	Sessional
<b>7<sup>th</sup></b>	25	Sessional
	26	Logical Statements & Truth Table & Compound Statements
	27	Logical Connectives (Conjunction, Disjunction & Negation)

<b>8<sup>th</sup></b>	28	Logical Equivalence, Tautologies, Contradictions
	29	Laws of Logics & their proof
	30	Implications (Conditional Statements, Biconditional Statements)
	31	Implications (Argument, Joint Denial) & Quantifiers
<b>9<sup>th</sup></b>	32	Questions on Reasoning
	33	Revision of Mathematical Reasoning
	34	Measures of position - mean, median, mode,
	35	Questions on mean
<b>10<sup>th</sup></b>	36	Questions on median
	37	Questions on mode
	38	Measure of dispersion - range, inter-quartile range, variance,
	39	Standard deviation
<b>11<sup>th</sup></b>	40	Questions on range, inter-quartile range
	41	Questions on variance
	42	Questions on standard deviation
	43	Measure of skewness
<b>12<sup>th</sup></b>	44	Revision of Statistics
	45	Sessional
	46	Sessional
	47	Sessional
<b>13<sup>th</sup></b>	48	Sessional
	49	Revision
	50	Revision
	51	Revision