***USHA RAMA COLLEGE OF ENGINEERING & TECHNOLOGY***

***DEPARTMENT: MATHEMATICS SUBJECT: MFCS***

***ACADEMIC YEAR-2016-2017 Branch: IT FACULTY: Md. Mustaq Ali***

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| S.NO | TOPIC | No of classes | DATE |
| UNIT-III | SET THEORY (Introduction) | 2 | 13/6-14-6 |
| 3.1 | Operations on Binary sets | 3 | 14/6-15/6 |
| 3.3 | Principal of Inclusion and exclusion | 1 | 16/6 |
| 3.4 | relations Properties | 1 | 17/6 |
| 3.5 | Relation Matrix | 1 | 18/6 |
| 3.6 | Partition,Covering | 1 | 20/6 |
| 3.7 | Trasitive Closure | 2 | 20/6-21/6 |
| 3.8 | Equivalence,Compatibility, | 2 | 22/6 |
| 3.9 | Parial ordering reltion,Hasses diagram | 2 | 23/6-24/6 |
| 3.1 | Functions,Bijective Functions,Composition | 1 | 25/6 |
| 3.11 | Inverse function, | 2 | 27/6 |
| 3.12 | Permutation function,Recursive function | 2 | 28/6-29/6 |
| \* | III-UNIT ASSINGNMENT | 1 | 29/6 |
| UNIT-I | MATHEMATICAL LOGIC |  |  |
| 1.1 | Statements and notations | 2 | 30/6-1/7 |
| 1.2 | Connectives | 2 | 2/7-4/7 |
| 1.3 | Truth tables,Tautologies,equvalence formulas | 2 | 4/7-5/7 |
| 1.4 | Duality law,Tautological Implications | 1 | 7/7 |
| 1.5 | Normal forms,Theory of Inference | 4 | 8/7-11/7 |
| 1.6 | Predicate logic,statement functions | 3 | 12/7-13/7 |
| 1.7 | variables and quantifiers | 5 | 14/7-18/7 |
| 1.8 | Free and bound vaiables | 2 | 19/7-20/7 |
| \* | UNIT-I ASSIGNMENT | 1 | 20/7 |
| UNIT-II | NUMBER THEORY AND INDUCTION |  |  |
| 2.1 | Properties of integers,division theorem | 2 | 21/7-22/7 |
| 2.2 | The greatest commondivisor | 2 | 23/7-25/7 |
| 2.3 | Eucludean Algorithm | 3 | 25/7-27/7 |
| 2.4 | Least Common Multiple | 1 | 27/7 |
| 2.5 | Testing of Prime numbers | 2 | 28/7-29/7 |
| 2.6 | The fundamental theorem of Arithmetic | 2 | 30/7-1/8 |
| 2.7 | Modular Arithmetic | 1 | 1/8 |
| 2.8 | Fermatt theorem,Euler theorem | 3 | 2/8-3/8 |
| 2.9 | Principal of mathematical induction | 4 | 4/8-8/8 |
| \* | UNIT-II ASSIGNMENT | 1 | 8/8 |
| UNIT-IV | GRAPH THEORY |  |  |
| 4.1 | Basic concepts of Graph | 3 | 16/8-17/8 |
| 4.2 | Sub Graphs | 1 | 18/8 |
| 4.3 | Matrix Representation | 2 | 19/8-20/8 |
| 4.4 | Adjacency Matrices,Incidence Matrices | 3 | 22/8-23/8 |
| 4.5 | Isomorphic Graphs,Paths and Cicuits | 3 | 24/8-26/8 |
| 4.6 | Eulerian and Hamiltonian Graphs | 2 | 26/8-27/8 |
| 4.7 | Multi Graphs | 1 | 29/8 |
| 4.8 | Planar Graphs, | 2 | 29/8-30/8 |
| 4.9 | Euler Formula | 1 | 31/8 |
| 4.1 | Graph Coloring and planarity | 1 | 31/8 |
| 4.11 | Cromatic number | 1 | 1/9 |
| 4.12 | Trees ,Properties,spanning trees,Decision Trees | 2 | 2/9-3/9 |
| \* | UNIT-IV ASSIGNMENT | 1 | 3/9 |
| UNIT-V | ALGEBRAIC STRUCTURERS,COMBINATORICS |  |  |
| 5.1 | Algebraic structures properties | 1 | 6/9 |
| 5.2 | Lattices,properties | 2 | 6/9-7/9 |
| 5.3 | Semi groups,Monoids | 2 | 7/9-8/9 |
| 5.4 | Homomorphism of semigroups&Monoids | 1 | 9/9 |
| 5.5 | Groups,properties,Cosets,sub groups, | 2 | 10/9-12/9 |
| 5.6 | rings properties | 1 | 12/9 |
| 5.7 | permutations,with repetitions | 1 | 13/9 |
| 5.8 | combinations,with restrictions,problems | 1 | 14/9 |
| 5.9 | Pigeon hole Principal,and application | 1 | 14/9 |
| 5.10 | Binamial theorem | 1 | 15/9 |
| 5.11 | generating function,inclusionand exclusion | 2 | 16/9-17/9 |
| \* | UNIT-V ASSIGNMENT | 1 | 19/9 |
| UNIT-VI | RECURRENCE RELATIONS |  |  |
| 6.1 | Generating functions and partial frations | 3 | 20/9-21/9 |
| 6.2 | calculating coefficient of gereating function | 4 | 22/9-26/9 |
| 6.3 | recurrence relations,Formulation | 3 | 26/-28/9 |
| 6.4 | solving linear equations | 1 | 28/9 |
| 6.5 | solving difference equations | 4 | 29/9-1/10 |
| \* | UNIT-VI ASSIGNMENT | 1 | 3/10 |

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