Saraswati Mahila Mahavidyalaya, Palwal

 **Lesson Plan**

**Name of the Assistant/Associate Professor: Ms. Karuna Garg**

**Class and Section: BCA Ist year (Sem II)**

**Name of subject:Discrete Mathematics**

**Subject Lesson Plan : 18 weeks(from January 2018 to April 2018)**

**(Note: Prepare as per list of holidays declared by Haryana govt.)**

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| **WEEK 1** |
| **ASSIGNMENT:** |
| **WEEK 1,DAY1 ,DATE :01/01/2018(MONDAY)** |
| **Frequency Distribution: Introduction to statistics sample, variable or variate, primary and secondary and Raw Data, array, frequency, frequency distribution** |
| **WEEK 1 ,DAY 2 ,DATE :02/01/2018(TUESDAY)** |
| **Formation of ungrouped frequency and grouped frequency distribution, class intervals, size of interval, midpoint, Individual series, exclusive and inclusive series** |
| **WEEK 1,DAY 3 ,DATE :03/01/2018(WEDNESDAY)** |
| **Conversion of inclusive series into exclusive series conversion of simple frequency series into cumulative frequency series** |
| **WEEK 1 ,DAY 4 ,DATE :04/01/2018(THURSDAY)** |
| **Examples based on the frequency distribution and conversion of series** |
| **WEEK 1,DAY 5 ,DATE :05/01/2018(FRIDAY)** |
|  **Holiday on account of Guru Govind Singh’s Birthday** |
| **WEEK 1 ,DAY 6 ,DATE :06/01/2018(SATURDAY)** |
|  |
| **WEEK 2** |
| **ASSIGNMENT: frequency distribution** |
| **WEEK 2,DAY1 ,DATE :08/01/2018(MONDAY)** |
| **Problem discussion** |
| **WEEK 2 ,DAY 2 ,DATE :09/01/2018(TUESDAY)** |
| **Block board test** |
| **WEEK 2,DAY 3 ,DATE :10/01/2018(WEDNESDAY)** |
| **Measure of Central Tendency****Introduction** |
| **WEEK 2 ,DAY 4 ,DATE :11/01/2018(THURSDAY)** |
| **Arithmetic Mean (A.M.)****And its illustration** |
| **WEEK 2,DAY 5 ,DATE :12/01/2018(FRIDAY)** |
| **Geometric Mean (G.M) and its illustration** |
| **WEEK 2 ,DAY 6 ,DATE :13/01/2018(SATURDAY)** |
|  **Harmonic mean (H.M) and examples** |
| **WEEK 3** |
| **ASSIGNMENT: Measure of Control Tendency**  |
| **WEEK 3,DAY1 ,DATE :15/01/2018(MONDAY)** |
| **Median and Illustration** |
| **WEEK 3 ,DAY 2 ,DATE :16/01/2018(TUESDAY)** |
| **Mode and examples based on mode** |
| **WEEK 3,DAY 3 ,DATE :17/01/2018(WEDNESDAY)** |
| **Problem discussion** |
| **WEEK 3 ,DAY 4 ,DATE :18/01/2018(THURSDAY)** |
| **Class test** |
| **WEEK 3,DAY 5 ,DATE :19/01/2018(FRIDAY)** |
|  **Measure of dispersion, introducatoin** |
| **WEEK 3 ,DAY 6 ,DATE :20/01/2018(SATURDAY)** **Range and its illustration** |
| **WEEK 4** |
| **ASSIGNMENT: Measure of Dispersion** |
| **WEEK 3,DAY1 ,DATE :22/01/2018(MONDAY)** |
|  **Holiday on account of Basant Panchmi.** |
| **WEEK 4 ,DAY 2 ,DATE :23/01/2018(TUESDAY)** |
| **Standard Deviation: Method to calculate the standard deviation** |
| **WEEK 4,DAY 3 ,DATE :24/01/2018(WEDNESDAY)** |
|  **Holiday on account of Sir Chotu Ram Jayanti.** |
| **WEEK 4 ,DAY 4 ,DATE :25/01/2018(THURSDAY)** |
| **illustations** |
| **WEEK 4,DAY 5 ,DATE :26/01/2018(FRIDAY)** |
|  **Holiday on account of Republic Day.** |
| **WEEK 4 ,DAY 6 ,DATE :27/01/2018(SATURDAY)** |
|  **S.D of combined group and illustrations** |
| **WEEK 5** |
| **ASSIGNMENT: S.D** |
| **WEEK 5,DAY1 ,DATE :29/01/2018(MONDAY)** |
| **Problem Discussion** |
| **WEEK 5 ,DAY 2 ,DATE :30/01/2018(TUESDAY)** |
| **Black board test** |
| **WEEK 5,DAY 3 ,DATE :31/01/2018(WEDNESDAY)** |
|  **Holiday on account of Guru Ravi Dass Jayanti** |
| **WEEK 5 ,DAY 4 ,DATE :01/02/2018(THURSDAY)** |
| **Correlation and Regression, introduction and types of correlation and its degree** |
| **WEEK 5,DAY 5 ,DATE :02/02/2018(FRIDAY)** |
|  **Covariance and its illustrations and Karl Pearson’s Coefficients** |
| **WEEK 5 ,DAY 6 ,DATE :03/02/2018(SATURDAY)** **Illustration of Karl Pearson’s Coefficients** |
| **WEEK 6** |
| **ASSIGNMENT: Covariance and Karl Pearson’s Coefficients** |
| **WEEK 6,DAY1 ,DATE :05/02/2018(MONDAY)** |
| **Calculation of coefficients of regression r, bxy and byx** |
| **WEEK 6 ,DAY 2 ,DATE :06/02/2018(TUESDAY)** |
| **Example based on coefficient regression and equations of regression lines** |
| **WEEK 6,DAY 3 ,DATE :07/02/2018(WEDNESDAY)** |
| **Problem discussion** |
| **WEEK 6 ,DAY 4 ,DATE :08/02/2018(THURSDAY)** |
| **Algorithms and complexity of algorithms**  |
| **WEEK 6,DAY 5 ,DATE :09/02/2018(FRIDAY)** |
|  **Algorithms, merits and demerits and illustration** |
| **WEEK 6 ,DAY 6 ,DATE :10/02/2018(SATURDAY)** |
|  **Holiday on account of Maharshi Dayanand Saraswati Jayanti.** |
| **WEEK 7** |
| **ASSIGNMENT:** |
| **WEEK 7,DAY1 ,DATE :12/02/2018(MONDAY)** |
| **Exponentiation, how to compute fast Exponentiation,** |
| **WEEK 7 ,DAY 2 ,DATE :13/02/2018(TUESDAY)** |
| **Holiday on account of Maha Shivaratri.** |
| **WEEK 7,DAY 3 ,DATE :14/02/2018(WEDNESDAY)** |
| **Searching, linear and binary search algorithm and illustrations**  |
| **WEEK 7 ,DAY 4 ,DATE :15/02/2018(THURSDAY)** |
| **Complexity of algorithms, worst case, complexity Big-o notation, advantage of logarithmic over linear algorithms**  |
| **WEEK 7,DAY 5 ,DATE :16/02/2018(FRIDAY)** |
| **Examples based on Big-O notation theorem based on combination of growth of functions** |
| **WEEK 7 ,DAY 6 ,DATE :17/01/2018(SATURDAY)** |
|  **Illustration and problem discussion** |
| **WEEK 8** |
| **ASSIGNMENT: Correlation and Regression theory**  |
| **WEEK 8,DAY1 ,DATE :19/02/2018(MONDAY)** |
| **Graph theory, introduction, graphs, types of graphs and degree of vertex** |
| **WEEK 8 ,DAY 2 ,DATE :20/02/2018(TUESDAY)** |
| **Types of vertices, sum important theorem on graph theory, theorem no. 1,2,3,** |
| **WEEK 8,DAY 3 ,DATE :21/02/2018(WEDNESDAY)** |
| **Theorem 4and 5 and examples based on result of theorems**  |
| **WEEK 8 ,DAY 4 ,DATE :22/02/2018(THURSDAY)** |
| **Sum special types of graphs: complementary graph, complete graph, regular graph, weighted graph, bipartite graph and illustration based on that graphs** |
| **WEEK 8,DAY 5 ,DATE :23/02/2018(FRIDAY)** |
| **Complete bipartite graph, planner graph, subgraph isomorphic and homeomorphic graphs and their illustration** |
| **WEEK 8 ,DAY 6 ,DATE :24/02/2018(SATURDAY)** |
| **Illustrations and problems discussion** |
| **WEEK 9** |
| **ASSIGNMENT:** |
| **WEEK 9,DAY1 ,DATE :26/02/2018(MONDAY)** |
| **Matric representation of graphs (adjacent and incident matrices ) path circuit eulerian path circuit** |
| **WEEK 9 ,DAY 2 ,DATE :27/02/2018(TUESDAY)** |
| **Hamiltonian path circuit and illustrations** |
| **WEEK 9,DAY 3 ,DATE :28/02/2018(WEDNESDAY)** |
|  **VACATION -II** |
| **WEEK 9 ,DAY 4 ,DATE :01/03/2018(THURSDAY)** |
|  **VACATION -II** |
| **WEEK 9,DAY 5 ,DATE :02/03/2018(FRIDAY)** |
|  **VACATION -II** |
| **WEEK 9 ,DAY 6 ,DATE :03/03/2018(SATURDAY)** |
|  **VACATION -II** |
| **WEEK 10** |
| **ASSIGNMENT: Graph theory** |
| **WEEK 10,DAY1 ,DATE :05/03/2018(MONDAY)** |
| **Problem discussion** |
| **WEEK 10,DAY 2 ,DATE :06/03/2018(TUESDAY)** |
| **Class test** |
| **WEEK 10,DAY 3 ,DATE :07/03/2018(WEDNESDAY)** |
| **Discussion of assignment** |
| **WEEK 10,DAY 4 ,DATE :08/03/2018(THURSDAY)** |
| **Trees : introducation and theorem on trees theorem on trees theorem 1,2,3,** |
| **WEEK 10,DAY 5 ,DATE :09/03/2018(FRIDAY)** |
| **Theorem 4,5,6 rooted tree, binary tree, full binary tree** |
| **WEEK 10 ,DAY 6 ,DATE :10/03/2018(SATURDAY)** |
| **Complete binary tree, ordered rooted tree and illustrations** |
| **WEEK 11** |
| **ASSIGNMENT: Trees** |
| **WEEK 11,DAY1 ,DATE :12/03/2018(MONDAY)** |
| **Subtree, tree traversal, spanning tree with illustrations** |
| **WEEK 11,DAY 2 ,DATE :13/03/2018(TUESDAY)** |
| **Minimum weight and minimum, Distance spanning trees (Krukal’s algorithm and Prim’s algorithm) with illustrations** |
| **WEEK 11,DAY 3 ,DATE :14/03/2018(WEDNESDAY)** |
| **Problem discussion** |
| **WEEK 11,DAY 4 ,DATE :15/03/2018(THURSDAY)** |
| **Black Board test** |
| **WEEK 11,DAY 5 ,DATE :16/03/2018(FRIDAY)** |
|  **Conversion of binary to decimal and decimal to binary** **Introduction and examples** |
| **WEEK 11 ,DAY 6 ,DATE :17/03/2018(SATURDAY)** |
|  **illustrations** |
| **WEEK 12** |
| **ASSIGNMENT: Conv. Of binary to decimal and decimal to binary** |
| **WEEK 12,DAY1 ,DATE :19/03/2018(MONDAY)** |
| **Problem discussion** |
| **WEEK 12,DAY 2 ,DATE :20/03/2018(TUESDAY)** |
| **Sorting , introduction , Bubble sort** |
| **WEEK 12,DAY 3 ,DATE :21/03/2018(WEDNESDAY)** |
| **Insertion and its illustrations** |
| **WEEK 12,DAY 4 ,DATE :22/03/2018(THURSDAY)** |
| **Merge sort and its examples** |
| **WEEK 12,DAY 5 ,DATE :23/03/2018(FRIDAY)** |
|  **Holiday on account of Shahidi diwas.** |
| **WEEK 12 ,DAY 6 ,DATE :24/03/2018(SATURDAY)** |
|  **Problem discussion** |
| **WEEK 13** |
| **ASSIGNMENT: Sorting**  |
| **WEEK 13,DAY1 ,DATE :26/03/2018(MONDAY)** |
| **Recursion and recurrence relations, sequences , explicit formula for a sequence recursion recursively defined function, Fibonacci sequence with examples**  |
| **WEEK 13,DAY 2 ,DATE :27/03/2018(TUESDAY)** |
| **Recursion relation, solution of recursion relation using backtracking and illustrations** |
| **WEEK 13,DAY 3 ,DATE :28/03/2018(WEDNESDAY)** |
| **Linear recurrence relation with constant, coefficients and linear homogenous recurrence relation with constant, coefficients and its solution**  |
| **WEEK 13,DAY 4 ,DATE :29/03/2018(THURSDAY)** |
|  **Holiday on account of Mahavir jayanti.** |
| **WEEK 13,DAY 5 ,DATE :30/03/2018(FRIDAY)** |
|  **Theorem based on solution of (LHRRWCC) and examples** |
| **WEEK 13 ,DAY 6 ,DATE :31/03/2018(SATURDAY)** |
|  **illustrations** |
| **WEEK 14** |
| **ASSIGNMENT: recursion and recursion relations** |
| **WEEK 14,DAY1 ,DATE :02/04/2018(MONDAY)** |
| **Divide –and-conquer algorithm (DCA)and formulation of divide-and –conquer recurrence relation (DCRR) and its examples** |
| **WEEK 14,DAY 2 ,DATE :03/04/2018(TUESDAY)** |
| **Multiplication or two n-bit integral and its examples** |
| **WEEK 14,DAY 3 ,DATE :04/04/2018(WEDNESDAY)** |
| **Problem discussion** |
| **WEEK 14,DAY 4 ,DATE :05/04/2018(THURSDAY)** |
| **Number theory: principle of Mathematical inducation and illustrations** |
| **WEEK 14,DAY 5 ,DATE :06/04/2018(FRIDAY)** |
|  **Examples based on principle of mathematical inducation** |
| **WEEK 14 ,DAY 6 ,DATE :07/04/2018(SATURDAY)** |
|  **Divisibility, theorems on divisibility: theorem 1,2,3,4,5,6,** |
| **WEEK 15** |
| **ASSIGNMENT: Number theory** |
| **WEEK 15,DAY1 ,DATE :09/04/2018(MONDAY)** |
| **Illustration**  |
| **WEEK 15,DAY 2 ,DATE :10/04/2018(TUESDAY)** |
| **Division algorithm theoem. G.C.D and L.C.M theorem on G.C.D and L.C.M theorem, 2.** |
| **WEEK 15,DAY 3 ,DATE :11/04/2018(WEDNESDAY)** |
| **Gauss theorem 3,4,5** |
| **WEEK 15,DAY 4 ,DATE :12/04/2018(THURSDAY)** |
| **Illustrations and conqruences and equivalence relations** |
| **WEEK 15,DAY 5 ,DATE :13/04/2018(FRIDAY)** |
|  |
| **WEEK 15 ,DAY 6 ,DATE :14/04/2018(SATURDAY)** |
| **Holiday on account of Vaisakhi & Dr B.R. Ambedkar’s Jayanti.** |
| **WEEK 16** |
| **ASSIGNMENT: Congruences and Equivalence relations** |
| **WEEK 16,DAY1 ,DATE :16/04/2018(MONDAY)** |
| **Examples based on congruences, theorem on congruenc theorem ,1,2** |
| **WEEK 16,DAY 2 ,DATE :17/04/2018(TUESDAY)** |
| **Theorem 3,4,5,6,7,8** |
| **WEEK 16,DAY 3 ,DATE :18/04/2018(WEDNESDAY)** |
| **Holiday on account of Maharshi Pasuram Jayanti** |
| **WEEK 16,DAY 4 ,DATE :19/04/2018(THURSDAY)** |
| **Cryptology, Caesar’s Cipher Encryption and Decryption method public key encryption schemes and problem discussion** |
| **WEEK 16,DAY 5 ,DATE :20/04/2018(FRIDAY)** |
|  **Class test** |
| **WEEK 16 ,DAY 6 ,DATE :21/04/2018(SATURDAY)** |
|  **Revision**  |
| **WEEK 17** |
| **ASSIGNMENT:** |
| **WEEK 17,DAY1 ,DATE :23/04/2018(MONDAY)** |
| **Revision** |
| **WEEK 17,DAY 2 ,DATE :24/04/2018(TUESDAY)** |
| **Revision** |
| **WEEK 17,DAY 3 ,DATE :25/04/2018(WEDNESDAY)** |
| **Revision** |
| **WEEK 17,DAY 4 ,DATE :26/04/2018(THURSDAY)** |
| **Revision** |
| **WEEK 17,DAY 5 ,DATE :27/04/2018(FRIDAY)** |
|  **Revision** |
| **WEEK 17 ,DAY 6 ,DATE :28/04/2018(SATURDAY)** |
|  **Revision** |
| **WEEK 18** |
| **ASSIGNMENT:** |
| **WEEK 18,DAY1 ,DATE :30/04/2018(MONDAY)** |
| **Revision** |