Saraswati Mahila Mahavidyalaya, Palwal

**Lesson Plan :**

**Name of the Assistant/Associate Professor: Ms. Amrita Rawat**

**Class and Section:BSC2(NM)**

**Name of subject: Sequence and series**

**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)** |
| **Introduction of Sets, supremum and infimum of sets** |
| **WEEK 1 ,DAY 2 ,DATE :02/01/2018(TUESDAY)** |
| **Theorems on supremum and infimum** |
| **WEEK 1,DAY 3 ,DATE :03/01/2018(WEDNESDAY)** |
| **Neighborhood of a point, deleted neighborhood of a point, interior of a point and open set**  |
| **WEEK 1 ,DAY 4 ,DATE :04/01/2018(THURSDAY)** |
| **Theorem of open set** |
| **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)** |
| **Problem discussion** |
| **WEEK 2** |
| **ASSIGNMENT: supremum and infimum of set** |
| **WEEK 2,DAY1 ,DATE :08/01/2018(MONDAY)** |
| **Closed set and theorem on closed set** |
| **WEEK 2 ,DAY 2 ,DATE :09/01/2018(TUESDAY)** |
| **Limit point, derived set, isolated point and adherent point** |
| **WEEK 2,DAY 3 ,DATE :10/01/2018(WEDNESDAY)** |
| **Theorem on limit point and adherent point** |
| **WEEK 2 ,DAY 4 ,DATE :11/01/2018(THURSDAY)** |
| **Bolzano weierstrass theorem** |
| **WEEK 2,DAY 5 ,DATE :12/01/2018(FRIDAY)** |
|  **Examples on limit point, derived sets open set and closed set** |
| **WEEK 2 ,DAY 6 ,DATE :13/01/2018(SATURDAY)** |
|  **Checking of assignment** |
| **WEEK 3** |
| **ASSIGNMENT: Bolzano weirestrass theorem** |
| **WEEK 3,DAY1 ,DATE :15/01/2018(MONDAY)** |
| **Problem discussion** |
| **WEEK 3 ,DAY 2 ,DATE :16/01/2018(TUESDAY)** |
| **Closer of a set, compact set, cover, open cover and sub cover of a set** |
| **WEEK 3,DAY 3 ,DATE :17/01/2018(WEDNESDAY)** |
| **Theorem on closer of a set** |
| **WEEK 3 ,DAY 4 ,DATE :18/01/2018(THURSDAY)** |
| **Heine borel theorem** |
| **WEEK 3,DAY 5 ,DATE :19/01/2018(FRIDAY)** |
| **Converse of heine borel theorem and questions of compact set** |
| **WEEK 3 ,DAY 6 ,DATE :20/01/2018(SATURDAY)** **Problem discussion** |
| **WEEK 4** |
| **ASSIGNMENT: heine borel theorem** |
| **WEEK 3,DAY1 ,DATE :22/01/2018(MONDAY)** |
|  **Holiday on account of Basant Panchmi.** |
| **WEEK 4 ,DAY 2 ,DATE :23/01/2018(TUESDAY)** |
| **Checking and discussion on assignment** |
| **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)** |
| **Introduction of sequence, real sequence and constant sequence** |
| **WEEK 4,DAY 5 ,DATE :26/01/2018(FRIDAY)** |
|  **Holiday on account of Republic Day.** |
| **WEEK 4 ,DAY 6 ,DATE :27/01/2018(SATURDAY)** |
|  **Bounded and unbounded sequence, convergent and divergent sequence** |
| **WEEK 5** |
| **ASSIGNMENT: Sequence** |
| **WEEK 5,DAY1 ,DATE :29/01/2018(MONDAY)** |
| **Null and oscilattory sequence, theorem on convergent sequence** |
| **WEEK 5 ,DAY 2 ,DATE :30/01/2018(TUESDAY)** |
| **Illustration on convergent and divergent sequence** |
| **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)** |
| **Sequeeze principle and cauchy’s first theorem on limit** |
| **WEEK 5,DAY 5 ,DATE :02/02/2018(FRIDAY)** |
|  **Cauchy’s second theorem on limit** |
| **WEEK 5 ,DAY 6 ,DATE :03/02/2018(SATURDAY)** **Illustration on sequences** |
| **WEEK 6** |
| **ASSIGNMENT: cauchy’ second theorem on limit** |
| **WEEK 6,DAY1 ,DATE :05/02/2018(MONDAY)** |
| **Problem discussion** |
| **WEEK 6 ,DAY 2 ,DATE :06/02/2018(TUESDAY)** |
| **Monotonic sequence and monotone convergence theorem** |
| **WEEK 6,DAY 3 ,DATE :07/02/2018(WEDNESDAY)** |
| **Nested sequence and cantor intersection theorem** |
| **WEEK 6 ,DAY 4 ,DATE :08/02/2018(THURSDAY)** |
| **Illustration on monotonic sequence and discussion on assignment** |
| **WEEK 6,DAY 5 ,DATE :09/02/2018(FRIDAY)** |
|  **Problem discussion** |
| **WEEK 6 ,DAY 6 ,DATE :10/02/2018(SATURDAY)** |
|  **Holiday on account of Maharshi Dayanand Saraswati Jayanti.** |
| **WEEK 7** |
| **ASSIGNMENT: Monotonic sequence and monotone convergence theorem** |
| **WEEK 7,DAY1 ,DATE :12/02/2018(MONDAY)** |
| **Limit point and Bolzano weierstrass theorem** |
| **WEEK 7 ,DAY 2 ,DATE :13/02/2018(TUESDAY)** |
| **Holiday on account of Maha Shivaratri.** |
| **WEEK 7,DAY 3 ,DATE :14/02/2018(WEDNESDAY)** |
| **Class test** |
| **WEEK 7 ,DAY 4 ,DATE :15/02/2018(THURSDAY)** |
| **Cauchy’s sequence and cauchy’s general principle of convergence** |
| **WEEK 7,DAY 5 ,DATE :16/02/2018(FRIDAY)** |
|  **Subsequence and theorems on subsequence** |
| **WEEK 7 ,DAY 6 ,DATE :17/01/2018(SATURDAY)** |
|  **Problem discussion** |
| **WEEK 8** |
| **ASSIGNMENT: Cauchy’s sequence** |
| **WEEK 8,DAY1 ,DATE :19/02/2018(MONDAY)** |
| **Illustration on limit point, Cauchy’s sequence and subsequence** |
| **WEEK 8 ,DAY 2 ,DATE :20/02/2018(TUESDAY)** |
| **Problem discussion** |
| **WEEK 8,DAY 3 ,DATE :21/02/2018(WEDNESDAY)** |
| **Introduction and convergence and divergence of infinite series** |
| **WEEK 8 ,DAY 4 ,DATE :22/02/2018(THURSDAY)** |
| **Cauchy’s general principle of convergence and positive term series** |
| **WEEK 8,DAY 5 ,DATE :23/02/2018(FRIDAY)** |
|  **Comparison test first, second and third form** |
| **WEEK 8 ,DAY 6 ,DATE :24/02/2018(SATURDAY)** |
|  **Checking and discussion on assignment** |
| **WEEK 9** |
| **ASSIGNMENT: infinite series convergence and divergence** |
| **WEEK 9,DAY1 ,DATE :26/02/2018(MONDAY)** |
| **Comparison test forth, fifth and sixth form** |
| **WEEK 9 ,DAY 2 ,DATE :27/02/2018(TUESDAY)** |
| **Hyper harmonic series or p-series 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:** **Hyper harmonic series or p-series** |
| **WEEK 10,DAY1 ,DATE :05/03/2018(MONDAY)** |
| **Problem discussion and checking of assignment** |
| **WEEK 10,DAY 2 ,DATE :06/03/2018(TUESDAY)** |
| **D-ratio test and illustrations** |
| **WEEK 10,DAY 3 ,DATE :07/03/2018(WEDNESDAY)** |
| **Cauchy’s root test and illustration** |
| **WEEK 10,DAY 4 ,DATE :08/03/2018(THURSDAY)** |
| **Raabes test and logarithmic test** |
| **WEEK 10,DAY 5 ,DATE :09/03/2018(FRIDAY)** |
| **De Morgan and Bertrand test and its illustration** |
| **WEEK 10 ,DAY 6 ,DATE :10/03/2018(SATURDAY)** |
|  **Gauss test and its illustration** |
| **WEEK 11**  |
| **ASSIGNMENT: Raabe’s Test** |
| **WEEK 11,DAY1 ,DATE :12/03/2018(MONDAY)** |
| **Cauchy’s integral test and cauchy’s condensation test** |
| **WEEK 11,DAY 2 ,DATE :13/03/2018(TUESDAY)** |
| **Problem discussion** |
| **WEEK 11,DAY 3 ,DATE :14/03/2018(WEDNESDAY)** |
| **Class test of announced topic** |
| **WEEK 11,DAY 4 ,DATE :15/03/2018(THURSDAY)** |
| **Introducation to alternating series and leibnitz’s test**  |
| **WEEK 11,DAY 5 ,DATE :16/03/2018(FRIDAY)** |
|  **Absolute convergence and conditional convergence** |
| **WEEK 11 ,DAY 6 ,DATE :17/03/2018(SATURDAY)** |
|  **Illustration on alternating series** |
| **WEEK 12** |
| **ASSIGNMENT: leibnitz’s test** |
| **WEEK 12,DAY1 ,DATE :19/03/2018(MONDAY)** |
| **Problem discussion** |
| **WEEK 12,DAY 2 ,DATE :20/03/2018(TUESDAY)** |
| **Abel’s lemma and abel’s test** |
| **WEEK 12,DAY 3 ,DATE :21/03/2018(WEDNESDAY)** |
| **Dirichlet’s test** |
| **WEEK 12,DAY 4 ,DATE :22/03/2018(THURSDAY)** |
| **Illustrations on Abel’s and dirichlet’s test** |
| **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: Dirchlet’s test** |
| **WEEK 13,DAY1 ,DATE :26/03/2018(MONDAY)** |
| **Insertion and removal of parenthesis** |
| **WEEK 13,DAY 2 ,DATE :27/03/2018(TUESDAY)** |
| **Riemann’s rearrangement theorem** |
| **WEEK 13,DAY 3 ,DATE :28/03/2018(WEDNESDAY)** |
| **illustrations** |
| **WEEK 13,DAY 4 ,DATE :29/03/2018(THURSDAY)** |
|  **Holiday on account of Mahavir jayanti.** |
| **WEEK 13,DAY 5 ,DATE :30/03/2018(FRIDAY)** |
|  **Multiplication of series and cauchy’s product of series** |
| **WEEK 13 ,DAY 6 ,DATE :31/03/2018(SATURDAY)** |
|  **Product theorem and discussion on assignment** |
| **WEEK 14** |
| **ASSIGNMENT:**  **Product theorem** |
| **WEEK 14,DAY1 ,DATE :02/04/2018(MONDAY)** |
| **Cauchy’s theorem** |
| **WEEK 14,DAY 2 ,DATE :03/04/2018(TUESDAY)** |
| **Mertin’s theorem** |
| **WEEK 14,DAY 3 ,DATE :04/04/2018(WEDNESDAY)** |
| **Ceasaro’s theorem and abel’s theorem** |
| **WEEK 14,DAY 4 ,DATE :05/04/2018(THURSDAY)** |
| **illustrations** |
| **WEEK 14,DAY 5 ,DATE :06/04/2018(FRIDAY)** |
|  **Problem discussion** |
| **WEEK 14 ,DAY 6 ,DATE :07/04/2018(SATURDAY)** |
|  **Black board test** |
| **WEEK 15** |
| **ASSIGNMENT: Mertin’s theorem** |
| **WEEK 15,DAY1 ,DATE :09/04/2018(MONDAY)** |
| **Infinite product and convergence of infinite product** |
| **WEEK 15,DAY 2 ,DATE :10/04/2018(TUESDAY)** |
| **Checking and discussion on assignment** |
| **WEEK 15,DAY 3 ,DATE :11/04/2018(WEDNESDAY)** |
| **Illustrations on convergence of infinite product** |
| **WEEK 15,DAY 4 ,DATE :12/04/2018(THURSDAY)** |
| **General principle of convergence and theorems on infinite product** |
| **WEEK 15,DAY 5 ,DATE :13/04/2018(FRIDAY)** |
|  **Absolute convergence of infinite product** |
| **WEEK 15 ,DAY 6 ,DATE :14/04/2018(SATURDAY)** |
| **Holiday on account of Vaisakhi & Dr B.R. Ambedkar’s Jayanti.** |
| **WEEK 16** |
| **ASSIGNMENT: infinite product and convergence** |
| **WEEK 16,DAY1 ,DATE :16/04/2018(MONDAY)** |
| **Illustrations on infinite product and discussion on assignment**  |
| **WEEK 16,DAY 2 ,DATE :17/04/2018(TUESDAY)** |
| **Problem discussion** |
| **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)** |
| **Revision on topology of real numbers** |
| **WEEK 16,DAY 5 ,DATE :20/04/2018(FRIDAY)** |
|  **Continuing revision of topology of real number** |
| **WEEK 16 ,DAY 6 ,DATE :21/04/2018(SATURDAY)** |
|  **Revision of sequences** |
| **WEEK 17** |
| **ASSIGNMENT:NO** |
| **WEEK 17,DAY1 ,DATE :23/04/2018(MONDAY)** |
| **Revision of previous year papers** |
| **WEEK 17,DAY 2 ,DATE :24/04/2018(TUESDAY)** |
| **Revision of infinite series convergence and divergence** |
| **WEEK 17,DAY 3 ,DATE :25/04/2018(WEDNESDAY)** |
| **Revision of D’Alembert’s ration test and Roabe’s test, Cauchy’s root test and logarithmic test** |
| **WEEK 17,DAY 4 ,DATE :26/04/2018(THURSDAY)** |
| **Revision of Gauss’s test, Cauchy’s integral test and Cauchy’s condensation test** |
| **WEEK 17,DAY 5 ,DATE :27/04/2018(FRIDAY)** |
|  **Revision of alternating series** |
| **WEEK 17 ,DAY 6 ,DATE :28/04/2018(SATURDAY)** |
|  **Revision of previous year papers** |
| **WEEK 18** |
| **ASSIGNMENT:NO** |
| **WEEK 18,DAY1 ,DATE :30/04/2018(MONDAY)** |
| **Revision of previous year papers** |