Saraswati Mahila Mahavidyalaya, Palwal

 **Lesson Plan**

**Name of the Assistant/Associate Professor: Ms. AMRITA RAWAT**

**Class and Section:BSC1 YR(II SEM)**

**Name of subject: Vector Calculus**

**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:...no** |
| **WEEK 1,DAY1 ,DATE :01/01/2018(MONDAY)** |
| **Introduction of scalars and vectors, their types and properties.** |
| **WEEK 1 ,DAY 2 ,DATE :02/01/2018(TUESDAY)** |
| **Vector triple products and geometrical interpretation of scalar triple product.** |
| **WEEK 1,DAY 3 ,DATE :03/01/2018(WEDNESDAY)** |
| **Properties of scalar triple product** |
| **WEEK 1 ,DAY 4 ,DATE :04/01/2018(THURSDAY)** |
| **Illustrations of scalar triple product.** |
| **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:Scalar triple product** |
| **WEEK 2,DAY1 ,DATE :08/01/2018(MONDAY)** |
| **Vector triple product and their properties.** |
| **WEEK 2 ,DAY 2 ,DATE :09/01/2018(TUESDAY)** |
| **Illustrations on vector triple product.** |
| **WEEK 2,DAY 3 ,DATE :10/01/2018(WEDNESDAY)** |
| **Scalar product of four vectors.** |
| **WEEK 2 ,DAY 4 ,DATE :11/01/2018(THURSDAY)** |
| **Vector product of four vectors.** |
| **WEEK 2,DAY 5 ,DATE :12/01/2018(FRIDAY)** |
|  **Problem discussion.** |
| **WEEK 2 ,DAY 6 ,DATE :13/01/2018(SATURDAY)** |
| **Assignment checking and discussion.** |
| **WEEK 3** |
| **ASSIGNMENT:Vector triple product** |
| **WEEK 3,DAY1 ,DATE :15/01/2018(MONDAY)** |
| **Reciprocal system of vectors and properties.** |
| **WEEK 3 ,DAY 2 ,DATE :16/01/2018(TUESDAY)** |
| **Revision day** |
| **WEEK 3,DAY 3 ,DATE :17/01/2018(WEDNESDAY)** |
| **Class test of announced topic.** |
| **WEEK 3 ,DAY 4 ,DATE :18/01/2018(THURSDAY)** |
| **Differentiation of vectors.** |
| **WEEK 3,DAY 5 ,DATE :19/01/2018(FRIDAY)** |
| **Theorems on differentiation of vectors.** |
| **WEEK 3 ,DAY 6 ,DATE :20/01/2018(SATURDAY)** **Illustrations on differentiation of vectors.** |
| **WEEK 4** |
| **ASSIGNMENT:.....no** |
| **WEEK 3,DAY1 ,DATE :22/01/2018(MONDAY)** |
|  **Holiday on account of Basant Panchmi.** |
| **WEEK 4 ,DAY 2 ,DATE :23/01/2018(TUESDAY)** |
| **Unit tangent vector, velocity, acceleration.** |
| **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)** |
| **Problem discussion.** |
| **WEEK 4,DAY 5 ,DATE :26/01/2018(FRIDAY)** |
|  **Holiday on account of Republic Day.** |
| **WEEK 4 ,DAY 6 ,DATE :27/01/2018(SATURDAY)** |
| **Black board test.** |
| **WEEK 5** |
| **ASSIGNMENT:Velocity and acceleration.** |
| **WEEK 5,DAY1 ,DATE :29/01/2018(MONDAY)** |
| **Introduction of gradient of scalar field and properties.** |
| **WEEK 5 ,DAY 2 ,DATE :30/01/2018(TUESDAY)** |
| **Illustrations of gradient and checking of assignment.** |
| **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)** |
| **Level surfaces and theorems.** |
| **WEEK 5,DAY 5 ,DATE :02/02/2018(FRIDAY)** |
| **Directional derivative, equations of tangent and normal planeto level surfaces.** |
| **WEEK 5 ,DAY 6 ,DATE :03/02/2018(SATURDAY)****Illustrations on level surfaces.** |
| **WEEK 6** |
| **ASSIGNMENT:Level surfaces.** |
| **WEEK 6,DAY1 ,DATE :05/02/2018(MONDAY)** |
| **Class test.** |
| **WEEK 6 ,DAY 2 ,DATE :06/02/2018(TUESDAY)** |
| **Divergence of vector function, properties of divergence.** |
| **WEEK 6,DAY 3 ,DATE :07/02/2018(WEDNESDAY)** |
| **Illustrations on divergence.** |
| **WEEK 6 ,DAY 4 ,DATE :08/02/2018(THURSDAY)** |
| **Curl of vector point function.** |
| **WEEK 6,DAY 5 ,DATE :09/02/2018(FRIDAY)** |
| **Examples on curl.** |
| **WEEK 6 ,DAY 6 ,DATE :10/02/2018(SATURDAY)** |
|  **Holiday on account of Maharshi Dayanand Saraswati Jayanti.** |
| **WEEK 7** |
| **ASSIGNMENT:Divergence and curl.** |
| **WEEK 7,DAY1 ,DATE :12/02/2018(MONDAY)** |
| **Checking of assignment.** |
| **WEEK 7 ,DAY 2 ,DATE :13/02/2018(TUESDAY)** |
| **Holiday on account of Maha Shivaratri.** |
| **WEEK 7,DAY 3 ,DATE :14/02/2018(WEDNESDAY)** |
| **Laplician operator and harmonic function.** |
| **WEEK 7 ,DAY 4 ,DATE :15/02/2018(THURSDAY)** |
| **Illustrations.** |
| **WEEK 7,DAY 5 ,DATE :16/02/2018(FRIDAY)** |
| **Problem discussion.**  |
| **WEEK 7 ,DAY 6 ,DATE :17/01/2018(SATURDAY)** |
| **Continuing problem discussion.** |
| **WEEK 8** |
| **ASSIGNMENT:....no** |
| **WEEK 8,DAY1 ,DATE :19/02/2018(MONDAY)** |
| **Curvilinear co-ordinates introduction and properties.** |
| **WEEK 8 ,DAY 2 ,DATE :20/02/2018(TUESDAY)** |
| **Gradient, divergence and curlin terms of curvilinear co-ordinates.** |
| **WEEK 8,DAY 3 ,DATE :21/02/2018(WEDNESDAY)** |
| **Properties of curvilinear co-ordinates.** |
| **WEEK 8 ,DAY 4 ,DATE :22/02/2018(THURSDAY)** |
| **Cylindrical co-ordinates and Spherical co-ordinates.** |
| **WEEK 8,DAY 5 ,DATE :23/02/2018(FRIDAY)** |
| **Illustrations on curvilinear co-ordinates.** |
| **WEEK 8 ,DAY 6 ,DATE :24/02/2018(SATURDAY)** |
| **Continuing illustrations .** |
| **WEEK 9** |
| **ASSIGNMENT:Curvilinear co-ordinates.** |
| **WEEK 9,DAY1 ,DATE :26/02/2018(MONDAY)** |
| **Problem discussion.** |
| **WEEK 9 ,DAY 2 ,DATE :27/02/2018(TUESDAY)** |
| **Problem discussion.** |
| **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:....no** |
| **WEEK 10,DAY1 ,DATE :05/03/2018(MONDAY)** |
| **Checking and discussion on assignment.** |
| **WEEK 10,DAY 2 ,DATE :06/03/2018(TUESDAY)** |
| **Introduction of vector integration and properties.** |
| **WEEK 10,DAY 3 ,DATE :07/03/2018(WEDNESDAY)** |
| **Illustrationson vector integration.** |
| **WEEK 10,DAY 4 ,DATE :08/03/2018(THURSDAY)** |
| **Line integrals and its properties.** |
| **WEEK 10,DAY 5 ,DATE :09/03/2018(FRIDAY)** |
| **Illustrations on circulation.** |
| **WEEK 10 ,DAY 6 ,DATE :10/03/2018(SATURDAY)** |
| **Problem discussion.** |
| **WEEK 11** |
| **ASSIGNMENT:Vector integration and line integral.** |
| **WEEK 11,DAY1 ,DATE :12/03/2018(MONDAY)** |
| **Surface integrals and properties.** |
| **WEEK 11,DAY 2 ,DATE :13/03/2018(TUESDAY)** |
| **Examples on surface integral.** |
| **WEEK 11,DAY 3 ,DATE :14/03/2018(WEDNESDAY)** |
| **Continuing examples.** |
| **WEEK 11,DAY 4 ,DATE :15/03/2018(THURSDAY)** |
| **Problem discussion.** |
| **WEEK 11,DAY 5 ,DATE :16/03/2018(FRIDAY)** |
| **Volume integral and its illustrations.** |
| **WEEK 11 ,DAY 6 ,DATE :17/03/2018(SATURDAY)** |
| **Problems on volume integral.** |
| **WEEK 12** |
| **ASSIGNMENT:Surface integral.** |
| **WEEK 12,DAY1 ,DATE :19/03/2018(MONDAY)** |
| **Revision day.** |
| **WEEK 12,DAY 2 ,DATE :20/03/2018(TUESDAY)** |
| **Black board test.** |
| **WEEK 12,DAY 3 ,DATE :21/03/2018(WEDNESDAY)** |
| **Gauss divergence theorems.** |
| **WEEK 12,DAY 4 ,DATE :22/03/2018(THURSDAY)** |
| **Deductions on gauss divergence theorem.** |
| **WEEK 12,DAY 5 ,DATE :23/03/2018(FRIDAY)** |
|  **Holiday on account of Shahidi diwas.** |
| **WEEK 12 ,DAY 6 ,DATE :24/03/2018(SATURDAY)** |
| **Continuing deductions on gauss divergence theorem ,and discussion on assignment.** |
| **WEEK 13** |
| **ASSIGNMENT:Gauss divergence theorem.** |
| **WEEK 13,DAY1 ,DATE :26/03/2018(MONDAY)** |
| **Illustrations on gauss divergence theorems.** |
| **WEEK 13,DAY 2 ,DATE :27/03/2018(TUESDAY)** |
| **Problem discussion.** |
| **WEEK 13,DAY 3 ,DATE :28/03/2018(WEDNESDAY)** |
| **Greens theorems.** |
| **WEEK 13,DAY 4 ,DATE :29/03/2018(THURSDAY)** |
|  **Holiday on account of Mahavir jayanti.** |
| **WEEK 13,DAY 5 ,DATE :30/03/2018(FRIDAY)** |
| **Stokes theorem** |
| **WEEK 13 ,DAY 6 ,DATE :31/03/2018(SATURDAY)** |
| **Revision day and checking of assignment.** |
| **WEEK 14** |
| **ASSIGNMENT:Stokes theorem.** |
| **WEEK 14,DAY1 ,DATE :02/04/2018(MONDAY)** |
| **Examples on Stokes theorem.** |
| **WEEK 14,DAY 2 ,DATE :03/04/2018(TUESDAY)** |
| **Examples on Greens theorem.** |
| **WEEK 14,DAY 3 ,DATE :04/04/2018(WEDNESDAY)** |
| **Problem discussion.** |
| **WEEK 14,DAY 4 ,DATE :05/04/2018(THURSDAY)** |
| **Checking and discussion on assignment.** |
| **WEEK 14,DAY 5 ,DATE :06/04/2018(FRIDAY)** |
| **Revision day.** |
| **WEEK 14 ,DAY 6 ,DATE :07/04/2018(SATURDAY)** |
| **Black board test.** |
| **WEEK 15** |
| **ASSIGNMENT:Greens theorem.** |
| **WEEK 15,DAY1 ,DATE :09/04/2018(MONDAY)** |
| **Revision day.** |
| **WEEK 15,DAY 2 ,DATE :10/04/2018(TUESDAY)** |
| **Checking and discussion on assignment.** |
| **WEEK 15,DAY 3 ,DATE :11/04/2018(WEDNESDAY)** |
| **Revision of triple product of vectors.** |
| **WEEK 15,DAY 4 ,DATE :12/04/2018(THURSDAY)** |
| **Revision of scalar and vector product of four vectors.** |
| **WEEK 15,DAY 5 ,DATE :13/04/2018(FRIDAY)** |
| **Revision of reciprocal system of vectors.** |
| **WEEK 15 ,DAY 6 ,DATE :14/04/2018(SATURDAY)** |
| **Holiday on account of Vaisakhi & Dr B.R. Ambedkar’s Jayanti.** |
| **WEEK 16** |
| **ASSIGNMENT: NO...........** |
| **WEEK 16,DAY1 ,DATE :16/04/2018(MONDAY)** |
| **Revision of differentiation of vectors.** |
| **WEEK 16,DAY 2 ,DATE :17/04/2018(TUESDAY)** |
| **Revision of gradient and divergence.** |
| **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 of curl.** |
| **WEEK 16,DAY 5 ,DATE :20/04/2018(FRIDAY)** |
| **Revision of curvilinear co-ordinates.** |
| **WEEK 16 ,DAY 6 ,DATE :21/04/2018(SATURDAY)** |
| **Continuing revision of curvilinear co-ordinates** |
| **WEEK 17** |
| **ASSIGNMENT.............no** |
| **WEEK 17,DAY1 ,DATE :23/04/2018(MONDAY)** |
| **Black board test.** |
| **WEEK 17,DAY 2 ,DATE :24/04/2018(TUESDAY)** |
| **Revision of vector integration.** |
| **WEEK 17,DAY 3 ,DATE :25/04/2018(WEDNESDAY)** |
| **Continuing revision of vector integration.** |
| **WEEK 17,DAY 4 ,DATE :26/04/2018(THURSDAY)** |
| **Revision of previous years papers.** |
| **WEEK 17,DAY 5 ,DATE :27/04/2018(FRIDAY)** |
| **Revision of gauss theorem and its illustrations.** |
| **WEEK 17 ,DAY 6 ,DATE :28/04/2018(SATURDAY)** |
| **Revision of Greens and Stokes theorems.** |
| **WEEK 18** |
| **ASSIGNMENT:........no** |
| **WEEK 18,DAY1 ,DATE :30/04/2018(MONDAY)** |
| **Revision of previous years papers.** |