**SARASWATI MAHILA MAHAVIDYALAYA,PALWAL**

SESSION:**2021-22**

**LESSON PLAN** Sem : Even

Name of faculty : Ms. Mithlesh Gupta Class : BA-III

Designation : Associate Professor in Maths Subject : Real and Complex Analysis

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| **Sr.No.** | **Topics/chapters** | **Lectures** | **Topics of assignment/test** |
| 1. | Jacobians, Beta and Gamma functions, Double and Triple integrals, Dirichlets integrals, change of order of integration in double integrals. | Lect 1 to Lect 20 | Test of Beta and Gamma functions and assignment of Double and Triple integrals. |
| 2. | Fourier’s series: Fourier expansion of piecewise monotonic functions, Properties of Fourier Coefficients, Dirichlet’s conditions, Parseval’s identity for Fourier series, Fourier series for even and odd functions, Half range series, Change of Intervals. | Lect 21 to Lect 40 | Test of Fourier’s series. |
| 3. | Extended Complex Plane, Stereographic projection of complex numbers, continuity and differentiability, differentiability of complex functions, Analytic functions, Cauchy-Riemann equations. Harmonic functions. | Lect 41 to Lect 60 | Assignment of Cauchy-Riemann equations. Harmonic functions, Test of construction of Analytic functions. |
| 4. | Mappings by elementary functions: Translation, rotation, Magnification and Inversion. Conformal Mappings, Mobius transformations. Fixed points, Cross ratio, Inverse Points and critical mappings. | Lect 61 to Lect 80 | Test of Mobius transformations. Fixed points, Cross ratio. |