**SARASWATI MAHILA MAHAVIDYALAYA,PALWAL**

 SESSION:**2021-22**

**LESSON PLAN** Sem :Even

Name of faculty : Ms. Seema chaudhary Class : BA-I

Designation : Assistant Professor in Maths Subject : Number Theory and trigonometry

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| **Sr.No.** | **Topics/chapters** | **Lectures** | **Topics of assignment/test** |
| 1. | Divisibility, G.C.D.(greatest common divisors), L.C.M.(least common multiple),Primes, Fundamental Theorem of Arithmetic. Linear Congruences, Fermat’s theorem. Wilson’stheorem and its converse. Linear Diophantine equations in two variables. | Lect 1 to Lect 20 | Test of Fundamental Theorem of Arithmetic. Linear Congruences, Fermat’s theorem. |
| 2. | Complete residue system and reduced residue system modulo m. Euler’s ø function Euler’sgeneralization of Fermat’s theorem. Chinese Remainder Theorem. Quadratic residues. Legendrysymbols. Lemma of Gauss; Gauss reciprocity law. Greatest integer function [x]. The number ofdivisors and the sum of divisors of a natural number n . Mobius function and Mobius inversion formula. | Lect 21 to Lect 40 | Test of Chinese Remainder Theorem. Quadratic residues. Legendry symbols. Lemma of Gauss; Gauss reciprocity law |
| 3. | De Moivre’s Theorem and its Applications. Expansion of trigonometrical functions. Directcircular and hyperbolic functions and their prop. | Lect 41 to Lect 60 | Assignment of circular and hyperbolic functions |
| 4. | Inverse circular and hyperbolic functions and their properties. Logarithm of a complex quantity. | Lect 61 to Lect 80 | Assignment of Logarithm of a complex quantity. |