

Government Polytechnic Hamirpur (H.P.)
Lesson Planning (Theory)

Branch: Electrical Engg.

Subject: Mathematics-I

Teacher: Dr. Subhash Chand

Semester: 1st

Session: August 2024-2025

Laboratory:

S. No.	No. of Lectures	Chapter/Unit Description	Detail of Contents	Reference Resources	Remarks	
1	19	3rd, 4th, 5th week of August and 1st week of September	Trigonometry	<p>concepts of angles and measurements of angles in degrees, grades and radians and their conversions</p> <p>Trigonometric ratios of allied angles, sum, difference formulae and their applications, product formulae, multiple & submultiple angles, graphs of $\sin x$, $\cos x$, $\tan x$, $\csc x$, $\sec x$, $\cot x$.</p>	Applied Mathematics-I by B.D.Moudgil & P.C. Chopra	
2	21	2nd, 3rd, 4th week of September and 1st and 2nd week of October	Differential calculus	<p>Definition of functions, concept of limits, four standard limits</p> <p>differentiation by definition of $\sin x$, $\cos x$, $\tan x$, $\log x$, $\exp(x)$</p> <p>differentiation of sum, product and quotient of functions, differentiation of function of a function</p> <p>differentiation of trigonometric and inverse trigonometric functions, logarithmic differentiation, exponential differentiation</p> <p>Applications of derivatives: maxima and minima, equation of tangent and normal to a curve, calculation of small errors and rate measures</p>	Applied Mathematics-I by B.D.Moudgil & P.C. Chopra	
3	31	3rd, 4th, 5th week of Oct. and 2nd, 3rd, 4th and 5th week of November	Algebra	<p>Complex numbers: Definition, real and Imaginary part of complex number, conjugate, modulus & amplitude of a complex number, Addition, Subtraction, Multiplication and Division of Complex numbers, De-Moivre's theorem and its application</p> <p>Partial fractions (linear factors, repeated and non-repeated linear factors),</p> <p>Permutations and combinations, Binomial theorem for positive integral index and any index, first and second binomial approximation with applications</p>	Applied Mathematics-I by B.D.Moudgil & P.C. Chopra	

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Signature of Teacher

(Subhash Chand)

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Signature of HOD
Applied Sc. & Humanities