

**SARDAR PATEL UNIVERSITY**  
**Programme: B.Sc**  
**Semester: I**  
**Syllabus with effect from: June-2011**

<b>Paper Code: US01EMTH02</b>	<b>Total Credit: 2</b>
<b>Title of Paper: Mathematics</b>	

Unit	Description in Detail	Weightage (%)
I	Function: Domain, Range, One-one, onto function, composition of functions, Complex number: Algebra of complex number. Quadratic equation and its solution.	25%
II	Exponential and Logarithmic function : Elementary properties. Trigonometric functions: sine, cosine, tan, cot, cosec, sec and their inverse function. Formulae: $\cos(AB)$ , $\sin(AB)$ , $\tan(AB)$ , $\sin(2\mu)$ ; $\cos(2\mu)$ ; $\tan(2\mu)$ :	25%
III	Determinant: 2, 3 order, Expansion, elementary properties, Matrices : 2*2 ; 3*3 order, Algebra of matrices ( Addition, Scalar product, product of two matrices)	25%
IV	Vector algebra: Vector space $R^2$ & $R^3$ , Operation: Addition, scalar multiplication and vector multiplication , magnitude of vector , Inner product, Box/Triple product, angle between two vectors.	25%

**Basic Text & Reference Books:**

- Maths - 1 and Maths - 2 Of Std. 11 , Gujarat State Board , 2008 .
- College Algebra, 2nd Edition, By Spiegel M.R., Moyer R.E., Tata Macgrew- hill Publishing Co. Ltd.
- Analytic Calculus, Fuller and Parker.
- Differential Calculus, By Shanti Narayana, S.Chand Publishing co.,
- Vasavada H.M., Analytical geometry of two and three dimensions , 1992

