

Course Code	Course Title	C	H	I	E	T
17U2MAC2	Allied Mathematics – II (I Phy. and I Chem.)	3	6	25	75	100

Unit I Vector Calculus **18 Hrs**

Vector differentiation – Vector differential operator – Gradient – Divergence – Curl & their simple properties – Directional Derivatives – Solenoidal and irrotational Vectors – Line integrals.

Unit II Matrix Theory **18 Hrs**

Types of Matrices – Rank of a Matrix – Consistency of equations – Cayley Hamilton theorem – Eigen Values and Eigen Vectors.

Unit III Correlation & Regression **18 Hrs**

Correlation – Rank Correlation – Spearman’s formula – Regression.

Unit IV Interpolation **18 Hrs**

Finite differences – Newton’s Formula – Lagrange’s Formula.

Unit V Index Numbers **18 Hrs**

Simple index number– Weighted index number – Weighted aggregative method – Weighted average of price relative method – Consumer price index numbers – Conversion of chain base index number into fixed base index and conversely.

Text Book:

1. S. Arumugam and A.Thangapandi Isaac, Allied Mathematics Paper II (MKU) by Edition 2011, New Gamma Publishing House.

Chapters: 1, 2, 3,6,7,9.

Reference Books:

1. S. P. Gupta, Statistical Methods, Revised edition 2011, S.Chand Publishing.
2. P. R. Vital, Allied Mathematics, Margam Publications (2009).