ANDHRA PRADESH STATE COUNCIL OF HIGHER EDUCATION

Multidisciplinary Course

w.e.f. AY 2023-24

SEMESTER-III

BASIC MATHEMATICS

Credits: 2   2 hrs/week

Course Outcomes

After successful completion of this course, the student will be able to
1. understand the concept of sets and relations
2. know the method of rationalisation in surds
3. understand Co-ordinate system and Locus
4. find the Point of intersection of two straight lines
5. find the Rank of a matrix.

Course Content

Unit – I : Algebra

Sets and Relations : Sets – Finite and Infinite sets – Equality of sets – Subsets – Power set – Universal set – Union and Intersection of sets – Relations – Equivalence relations –Examples.
Surds : Surd – Pure and Mixed surds – Similar surds – Monomial surds – Binomial Surds – Rationalisation.
Logarithms : Definition – Properties of Logarithms – Common Logarithms.

Unit – II : Co-ordinate Geometry

Co-ordinate system : Distance between two points – Division formula – Centroid – Areas of Triangles and Quadrilaterals.
Locus : Definition of Locus – Equation of Locus
Straight Line: Different forms – Reduction of general equation into various forms –Point of intersection of two straight lines

Unit – III : Matrices

Matrices: Types of matrices – Examples – Addition of Matrices – Subtraction of Matrices – Scalar multiple of a matrix – Multiplication of matrices – Transpose of a matrix and determinants – Minors and Cofactors – Adjoint of a matrix – Inverse of a matrix – Rank of a matrix – definition and examples.

Activities:
Seminar/ Quiz/ Assignments/ Problem Solving Sessions.

Reference Books :
1. Basic Abstract Algebra by P.B.Bhattacharya, S.K.Jain, S.R.Nagpaul, Cambridge University Press.
2. Co-ordinate Geometry by M.L.Khanna, Jai Prakash Nath Publications.
3. A Text book of Matrices by Shanti Narayan & PK Mittal, S.Chand Publications.

ANDHRA KESARI UNIVERSITY-ONGOLE, PRAKASAM DISTRICT
Multidisciplinary Course Programme from the Year 2023-24 Onwards
Course: Basic Mathematics Semester - III

Time: 2 Hours   Total Marks: 50

PART –A
Answer any four of the following out of Eight Questions

4X5=20 Marks

1.

2.

3.

4.

5.

6.

7.

8.

PART –B
Answer any Three of the following

3X10=30 Marks

9.

10.

11.

12.

13.

14.