

CCSS UG PROGRAMME
MATHEMATICS (OPEN COURSE)
(for students not having Mathematics as Core Course)
FIFTH SEMESTER
MM5D01 : MATHEMATICS FOR PHYSICAL SCIENCES
3 hours/week 4 credits 30 weightage

Text Book:

1. John B Fraleigh : A First Course in Abstract Algebra, 7th ed., Pearson Ed.
2. Devi Prasad : Elementary Linear Algebra : Narosa.

Module I (30 hrs)

1. Binary operations
2. Isomorphic binary structures
3. Groups and subgroups - Sec. 2, 3, 4 and 5 of (1)
4. Groups of Permutations – Sec. 8 and 9 of (1)
5. Homomorphism – definition and simple examples – Sec. 13 of (1).
6. Rings and Fields – definition and simple examples.

Module II : Linear Algebra (24 hrs)

Vector space, subspace, linear dependence and independence.

Basis and dimension – simple examples

Linear transformations and matrix of linear transformations – simple examples
(Text 2)

References

1. Joseph A. Gallian: Contemporary Abstract Algebra – Narosa Pub. House.
2. K. Hoffman & R. Kunze : Linear Algebra – Pearson Education.