Ambedkar University Delhi

Course Outline

Monsoon Semester (July-December 2018)

School: Undergraduate Studies

Programme with title: BA (Honours)

Semester to which offered: (I/ III/ V)   V semester

Course Title: Algebra III

Credits: 4 Credits

Course Code (new):   SUS1MA509

Course Code (old):   M11

Type of Course:	Compulsory	yes	Cohort	BA (H) Mathematics
	Elective	yes	Cohort	BA (H) other than Mathematics

For SUS only (Mark an X for as many as appropriate):

1. Foundation (Compulsory)

2. Foundation (Elective)

3. Discipline (Compulsory)   X

4. Discipline (Elective)   X

5. Elective

Course Coordinator and Team: Y (CC) and Kranti Kumar

Email of course coordinator: Y@aud.ac.in

Pre-requisites: M07

Aim: This course continues where the Algebra II course ended. It builds the theoretical base in Group theory, Ring Theory and Linear Algebra beyond what was done in M07.

Brief description of modules/ Main modules:

- Group Theory: Automorphisms, External Direct Products, Fundamental Theorem of finite abelian groups.
- Ring Theory: Polynomial rings, factorization of polynomials, divisibility in integral domains.
- Linear Algebra: Change of basis, applications to difference equations and Markov chains, eigenvalues and eigenvectors.

Refererences:

1. Joseph A. Gallian, Contemporary Abstract Algebra (Fourth Edition), Narosa Publishing House, New Delhi, 1999.
2. Jimmie Gilbert and Linda Gilbert, Linear Algebra and Matrix Theory (Second Edition), Brooks Cole, 2004.
3. David C. Lay, Linear Algebra and its Applications (Third Edition), Pearson Education Asia, Indian Reprint, 2007.

ADDITIONAL REFERENCES:

Bhattacharya, Jain and Nagpal, Basic Abstract Algebra (Second Edition), Cambridge, 2009.

Tentative Assessment schedule with details of weightage:

S.No	Assessment	Date/period in which Assessment will take place	Weightage
1	Class test	End August	10%
2	Mid Semester Exam	End September/ early October	25%
3	Tut/ Home Assignments	Throughout the semester	15%
4	Presentation/ Viva	End October/ early November	15%
5	End Semester Exam	As per AUD Academic Calendar	35%