Ambedkar University Delhi

Course Outline

Monsoon Semester (July-December 2017)

School:	Undergraduate Studies			
Programme with title:	BA (Honours)			
Semester to which offered: (I/ III/ V)	III semester			
Course Title:	Algebra I			
Credits:	4 Credits			
Course Code (new):	SUS1MA503			
Course Code (old):	M03			
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: Balchand Prajapati (CC), Geetha Venkatraman and Maths X (Adjunct/Temporary Faculty)

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

Pre-requisites: Mathematics of the 10 + 2 level

Aim: The aim of the course is to offer a gentle introduction to very basic concepts of complex numbers, groups, rings and linear mappings and some applications of these.

Real-life examples, hands-on projects, presentations, case studies, visualisation and basic computing tools will be used to reinforce skills of group theory and linear algebra.

Brief description of modules/ Main modules:

1. **Classical Algebra**
2. **Group Theory**
3. **Ring Theory**
4. **Linear Algebra**

Refererences:

1. Paul E. Bland, The Basics of Abstract Algebra, W. H. Freeman and Company, 2002.
2. Bhattacharya, Jain and Nagpal, Basic Abstract Algebra (Second Edition), Cambridge, 2009.
3. Peter J. Cameron, Introduction to Algebra (Second Edition), Oxford University Press, 2008.
4. Neal H.M^{c} Coy, Introduction to Modern Algebra (Fifth Revised Edition), Brown (William C.) Co, U.S., 1992.
5. John R. Durbin, Modern Algebra, An Introduction (Fifth Edition), John Wiley and Sons (Asia) Pte. Ltd, 2005.
6. Joseph A. Gallian, Contemporary Abstract Algebra (Fourth Edition), Narosa Publishing House, New Delhi, 1999.
7. Jimmie Gilbert and Linda Gilbert, Linear Algebra and Matrix Theory (Second Edition), Brooks Cole, 2004.
8. David C. Lay, Linear Algebra and its Applications (Third Edition), Pearson Education Asia, Indian Reprint, 2007.

Tentative Assessment schedule with details of weightage:

S.No	Assessment	Date/period in which Assessment will take place	Weightage
1	Class test	End August/ early September	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%