

Department of Mathematics, IIT Madras

MA1102 Series and Matrices

Jan- Apr 2019 –Teaching Plan

: Portions from the text in proper sequence :

Review of Sequences: Thomas, 11.1

Series: Text Book: Thomas, Chapters: 11.2- 11.6, 8.8, 11.7 -11.9, Kreyszig 11.1-11.2.

Matrices: Text Book : Kreyszig: 7.1-7.9, Chapter 8.

: Tentative number of classes required to cover the syllabus: Total : 40 classes

Text	Class notes	Material	Number of Hours	Exam
Thomas 11.1	Ch-1.1	Sequences (review)	2 class	Quiz 1
Thomas: 11.2-11.6, 8.8	Ch-1	Series of num- bers	7 classes	Quiz-1
Thomas 11.7	Ch-2	Power Series	3 classes	Quiz-1
Thomas 11.8-11.9	Ch-2	Taylor , Maclaurin's series and its Convergence	3 classes	Quiz 2
Kreyszig: 11.1-11.2	Ch-2	Fourier Series	4 classes	Quiz- 2
Kreyszig: 7.1 - 7.4.	Ch-3	Matrix opera- tions	7 classes	Quiz-2
Kreyszig 7.5 - 7.9 and 8.1-8.5	Ch-4 & 5	Determinant and Linear Systems and Matrix Eigen- value problem	16 classes	Final

: Assignments and their corresponding material from Text and Lecture notes:

- **Assignment-1:** Text Book: Thomas: 11.1-11.6, 8.8.
Classnotes: Chapter-1.

- **Assignment-2:** Text Book: Thomas 11.7-11.9 and Kreyszig: 11.1-11.2 (Fourier Series)
Classnotes: Chapter-2. **(Fourier series is incomplete in Class notes..Please refer the text for complete material).**

- **Assignment-3:** Text Book: Kreyszig: 7.1 - 7.5.
Classnotes: Chapter-3.

- **Assignment-4:** Text Book: Kreyszig 7.6 - 7.9 and Ch. 8.
Classnotes: Chapters-4 and 5.

: Portions for Exams: (Tentative...Can be modified)

Quiz 1 : 11.1-11.6, 8.8, 11.7 (Thomas's Calculus)

Quiz 2 : Thomas's Calculus: 11.8-11.9 and Kreyszig: 11.1-11.2, 7.1-7.4