Title	Reference	Contents	Remarks
Algebra	1	Systems of linear equations- Matrices and Determinants –Vector Spaces- Eigenvalues and Eigenvectors- Diagonalization- linear transformations	
	2	Mathematical induction- Method of Proofs-Relations-Operations. Properties of Groups- Normal subgroups- Quotient groups-Isomorphism Theorems- Properties of Rings- Integral domain and Fields-Ideals Euclidean Domains.	
Analysis	3	Limits of Functions- Continuous Functions- The Derivatives- Taylors Theorem. Integrals-Sequences and Infinite Series –Functions of Several Variables: Limits – Continuity and Partial Differentiations- Multiple Integrals.	
	4	The Completeness Property of the set of real numbers-Supremum and Infimum- Bolzano – Weierstrass Theorem- Cauchy Criterion- Riemann Integral- Riemann Integrable Functions.	
	5	Limits, Continuity, and complex Differentiations – The Cauchy- Riemann Equations- Complex integrations-Cauchy's integral formula – Complex Sequences-Series- Taylor Series- Laurent Series- Cauchy Residue Theorem.	
Differential Equations	6	First Order: Linear- Separable variables- Exact equation	
Proba.& Stat.	7	Probability-Random variables and probability distributions- Discrete distributions- Continuous distributions- Joint probability distributions	

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