

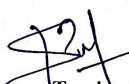



Rajarshi Shahu Mahavidyalaya (Autonomous)  
Latur Department of Mathematics  
Academic Year : 2022-23  
Term-First(June 2022-November 2022)(Odd)

PG-I & UG-I From 06-07-2022 to 15-10-2022  
Name of Assistant Professor : Mr. Shubham Bhausaheb Khose  
Subject : Mathematics


1. Details of Classes to be taught

Sr. No.	Class	Course Name	Course Code	(Theory/Practical)	Workload
1.	B.Sc.I	Algebra	U-MAT-138	Theory	03
2.	B.Sc.II	Group Theory	U-MAT-340	Theory	03
		Laboratory Course on Problems in Group Theory	U-MAT-342	Practical	06
3.	M.Sc.I	Abstract Algebra	P-ABA-164	Theory	06
		Advanced Calculus	P-ADC-165	Theory	06
		Seminar	P-SEM-170		01
4	M.Sc.II	Seminar	P-SEM-371		01
		Project	P-PRO-370		02
					Total workload=28

  
Course Teacher  
Mr. Shubham B. Khose

  
HoD  
Dr. M. S. Waire  
Head,  
Department of Mathematics,  
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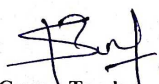
  
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1.Summary of Lesson Plan for B.Sc.I : Algebra

Sr. No.	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No.of Test/ Assignment with topic and date
1.	<b>Unit I: Introduction</b> Set, Relations and Functions, Equivalence Relation, Equivalence Classes, Partition Of Set, Functions, Basic Terminology, Types of Function, Composition of Function(Excluding Theorem only Statements)	11/07/2022 to 01/08/2022	10		Assignment before 01 August 2022
2.	<b>Unit II: Elementary Number Theory</b> Mathematical Induction, Well Ordering Principle, Archimedean Property, The Binomial theorem, Pascal's triangle. The Division Algorithm, the Greatest Common Divisor, the Euclidean Algorithm, Basic Properties of Congruences	02/08/2022 to 05/09/2022	12	Group Discussion	Assignment before 03 September 2022
3.	<b>Unit III: Rank of Matrix</b> Minor of order K, Rank of Matrix, Elementary Rows, column operations, Elementary operations, Inverse of elementary operations. Equivalent Matrices, Row – Echelon Matrix row rank and column rank of a matrix.	06/09/2022 to 21/09/2022	08	Group Discussion	Assignment before 20 September 2022

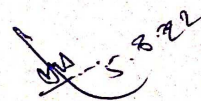
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Palani-626 012


4.	<b>Unit IV: Linear Equations</b> Linear equations equivalent system, system of homogeneous equations, Characteristic Roots & Caley Hamilton theorem (only statements)	22/09/2022 To 12/10/2022	10	Practice Test	Assignment before 10 October 2022
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Course Teacher  
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## 2. Summary of Lesson Plan for B.Sc. II : Group Theory

Sr. No.	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test/ Assignment with topic and date
1.	<b>Unit-I: Groups and Subgroups</b> Definition of group, subgroups, Elementary properties of groups, finite groups, cyclic groups and its properties.	07/07/2022 to 16/08/2022	15	Group Discussion	Assignment before 14 August 2022
2.	<b>Unit-II: Permutation groups and isomorphism</b> Symmetric groups, Permutations, Group isomorphism, Automorphism and their properties, Cayleys theorem	17/08/2022 to 21/09/2022	15	Group Discussion	Assignment before 20 September 2022
3.	<b>Unit-III :Coset and Lagrange's theorem</b> Definition of coset and properties, Lagrange's theorem and its consequences, an applications of cosets to permutation groups. External direct product, definition and examples of normal subgroups and factor groups	22/09/2022 to 15/10/2022	15	Practice Test	Assignment before 14 October 2022

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3. Summary of Lesson Plan for B.Sc.II : Laboratory Course on Problems in Group Theory

Sr. No.	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test/ Assignment with topic and date
1.	Practical No. 01 to 10	11/07/2022 to 16/08/2022	10	NPTEL Assignment solved, Exercise Question solved	Assignment before 09/08/2022
2.	Practical No. 11 to 20	17/08/2022 to 20/09/2022	10	NPTEL Assignment solved, Exercise Question solved	Assignment before 19/09/2022
3.	Practical No. 21 to 30	21/09/2022 to 15/10/2022	10	NPTEL Assignment solved, Exercise Question solved	Assignment before 14/10/2022

  
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**Rajarshi Shahu Mahavidyalaya (Autonomous), Latur**  
Structured Work Plan for Teaching  
(Dec-2022 to Mar-2023)

Sr. No.	Class	Name of the Teacher	Subject	Paper
1.	B.Sc. I	Mr.Shubham B. Khose	Mathematics	Course Title: Integral Calculus Course Code: U-MAT240

Sr. No.	Unit	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test/ Assignment with topic and date
1	UNIT – I	Riemann Integration	8/12/2022 to 24/01/2023	20	Discussion	
2	UNIT – II	Improper Integrals	25/01/2023 to 22/02/2023	13		Assignment on unit I,II
3	UNIT – III	Beta and Gamma functions	23/02/2023 to 27/03/2023	12	Solving Exercise problem	

  
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Sr. No.	Class	Name of the Teacher	Subject	Paper
1	B.Sc. II	Mr. Shubham B. Khose	Mathematics	Course Title: Ring Theory Course Code: U-MAT-440

Sr. No.	Unit	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test/ Assignment with topic and date
1	UNIT – I	Rings And Examples of Rings	08/12/2022 to 11/01/2023	15	Discussion	
2	UNIT – II	Ideals	12/01/2023 to 15/02/2023	15		Assignment on unit I, II
3	UNIT – III	Polynomial Rings	16/02/2023 to 28/03/2023	15	Solving Exercise problem	

  
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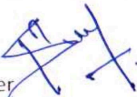
  
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


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Sr. No.	Class	Name of the Teacher	Subject	Paper
1	B.Sc. II	Mr.Shubham B. Khose	Mathematics	Course Title: Laboratory Course-VI Problem course on Ring Theory Course Code: U-MAT-442

Sr. No.	Unit	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test/ Assignment with topic and date
1	UNIT – I	Practical No.01 to 10	08/12/2022 to 11/01/2023	10		
2	UNIT – II	Practical No.11 to 20	12/01/2023 to 15/02/2023	10		
3	UNIT – III	Practical No.21 to 30	16/02/2023 to 28/03/2023	10		

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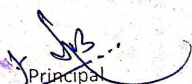
Sr. No.	Class	Name of the Teacher	Subject	Paper
1.	M.Sc.I	Mr. S. B. Khose	Mathematics	Course Title: Analytical Number Theory Course Code: P-ANT-265

Sr. No.	Unit	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test/ Assignment with topic and date
1	UNIT – I	The Theory of Congruences.	12/01/2023 to 31/01/2023	15	Discussion	
2	UNIT – II	Quadratic Reciprocity Law	01/02/2023 to 25/02/2023	15		Assignment on unit I and II
3	UNIT – III	Arithmetic Functions and Dirichlet Multiplication.	27/02/2023 to 23/03/2023	15	Problem solving	
4	UNIT – IV	Multiplicative Functions	24/03/2023 to 08/04/2023	15		Assignment on unit III and IV

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Sr. No.	Class	Name of the Teacher	Subject	Paper
1.	M.Sc.I	Mr. S. B. Khose	Mathematics	Course Title: Measure and Integration Theory Course Code: P-MIT-267

Sr. No.	Unit	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test/ Assignment with topic and date
1	UNIT – I	Lebesgue measure.	12/01/2023 to 04/02/2023	15	Discussion	
2	UNIT – II	Abstract Measure Spaces.	06/02/2023 to 28/02/2023	15		Assignment on unit I and II
3	UNIT – III	Signed measure and their properties.	01/03/2023 to 27/03/2023	15	Problem solving	
4	UNIT – IV	Measure and integration in product spaces.	28/03/2023 to 08/04/2023	15		Assignment on unit III and IV

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