RajarshiShahuMahavidyalaya (Autonomous), Latur

Department of Mathematics

Structured Work Plan for Teaching

First/ThirdTerm (Jun 2022 to Oct2022)

Name: Shivkanya Dinkar Shinde

1. Details of Classes to be taught

Sr. No.	Class	Semester	Name of Asst. Prof.	Subject	Course Code	Paper	Workload
1	M.Sc.-I	I Sem	Miss.S.D.Shinde	Mathematics	P-ODE-166	Ordinary differential equation	06
2	M.Sc.-I	I Sem			P-COA-167	Complex analysis	06
3	M.Sc. II	III Sem			P-RIT-365	Ring theory	06
4	M.Sc. II	III Sem			P-LAB-369	Foundation of analysis I	06
5	M.Sc.-I	I Sem			P-SEM-170	Seminar	01
6	M.Sc.-II	III Sem			P-SEM-371	Seminar	01
7	M.Sc.-II	III Sem			P-PRO-370	Project Guidence(2 Group)	02
						TOTAL	28 Lectures/Week

Course Teacher
Miss. S.D.Shinde

Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

5.8.22

Principal
PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur

3.Summary of Lesson Plan for M.Sc- II (semester III)

Name of Teacher: miss. S.D.Shinde Cource Name :Ring Theory Cource Code:P-RIT-365 Paper XI (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.	Unit-I: Rings Terminology, Rings of Continuous Functions, Matrix Rings , Polynomial Rings, Power Series Rings , Laurent Rings , Boolean Rings ,Some Special Rings ,Direct Products ,Several Variables ,Opposite Rings , Characteristic of a Ring . Unit-II: Ideals Definitions Maximal Ideals, Generators, Basic Properties of Ideals , Algebra of Ideals ,Quotient Rings ,Ideals in Quotient Rings , Local Rings. Unit-III: Homeomorphisms of Rings Definitions and Basic Properties, Fundamental Theorems Endomorphism Rings Field of fractions Prime fields Unit-IV: Factorization in Domains Division in Domains, Euclidean Domains, Principal Ideal Domains, Factorization Domains, Unique Factorization Domains, Eisenstein's Criterion	20/06/2022 to 08/07/2022 09/07/2022 to 16/08/2022 17/08/2022 to 15/09/2022 16/09/2022 to 15/10/2022	15 15 15 15	NPTEL cource Registration	Homework examples Home assignment Assignment solve Homework examples

Course Teacher
Miss. S.D.Shinde

H.O.D
Dr. Mahesh S. Wavare
Head
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Rajarshi Shahu Mahavidyalaya Latur (Autonomous)

Principal
PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur

4. Summary of Lesson Plan for M.Sc-II (semester III)

Name of Teacher:miss.S.D.Shinde Cource Name: foundation of analysis I Cource Code:P-LAB-369 Lab Cource III

Sr. No.	Unit to be covered	Date	No. of Lectures	Academic activities to be organized	No.of Test/ Assignment with topic and date
1.	**Section -I** Elementary set theory, finite, countable and uncountable sets, Real number system as a complete ordered field, Archimedean property, supremum, infimum. Sequences and series, convergence, limsup, liminf. **Section-I** Bolzano Weierstrass theorem, Heine Borel theorem. Continuity, uniform continuity, differentiability, mean value theorem. Sequences and series of functions, uniform convergence.	11/07/2022 to 25/08/2022 27/08/2022 to 15/10/2022	30 30		Home assignment Home assignment

Course Teacher
Miss. S.D.Shinde

Head,
H.O.D
Department of Mathematics,
Dr. Mahesh S. Wavare
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur

5	M.Sc.-I	Seminar	July 2022 To Oct 2022	20	2 student per week	
6	M.Sc.-II	Seminar	July 2022 To Oct 2022	20	2 student per week	
7	M.Sc.-II	Project	July 2022 To Oct 2022	20	6 Student per project	2- Project Presentation for each group

Course Teacher
Miss. S.D.Shinde

Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

Principal
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur

1.Summary of Lesson Plan for M.Sc- I (semester I)

Name of Teacher: miss. S.D.Shinde Cource Name:Ordinary Diffrential Equations Cource Code:P-ODE-166 Paper III (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.	**Unit I :**Initial value problems, Solutions of the homogeneous equation. **Unit II :**Linear dependence and independence, A formula for the Wronskian, The non-homogeneous equations of order two, The homogeneous equations of order *n*, Initial Value Problem for *n*th order equations, Equations with real constants, The non-homogeneous equations of order-*n*, A special method for solving the non-homogeneous equation, Algebra of constant coefficient operators	12/09/2022 To 29/09/2022	15		Homework examples
		30/09/2022 To 15/10/2022	15		Home assignment
	Unit III: Wronskian and linear independence, Reduction of order, Non-homogeneous	07/11/2022 To 28/11/2022	15		Assignment solve

	equations, Legendre equation, Linear Equations with regular singular points: Euler equation, Second order equation with regular singular points, Exceptional cases, The Bessel equation, The Bessel equation (Continued) **Unit IV:** Separation of variables, Exact equations, Method of successive approximations, Lipchitz condition, Convergence of the successive approximations, Non local existence of solutions, Approximations to, and uniqueness of solutions, Equations with complex valued functions.	29/11/2022 To 20/12/2022	15		Homework examples

Course Teacher
Miss. S.D.Shinde

H.O.D
Dr. Ashish S. Wavare

Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

27.9.22

Principal
PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous) Latur

2.Summary of Lesson Plan for M.Sc- I (semester I)

Name of Teacher: miss. S.D.Shinde Cource Name :complex Analysis Cource Code:P-COA-167 Paper IV (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.	**Unit I:** Complex Field, Modulus, Argument and Conjugate of complex numbers, Algebra of complex numbers, Rectangular and Polar representation of Complex numbers, Point sets in the plane, Sequences. Stereographic Projection, Linear Fractional, Transformation, Other Mappings, The Exponential Function, Mapping Properties	12/09/2022 To 30/09/2022	16		Homework examples
	Unit II: The Logarithmic Function, Complex Exponents, Power series, Analytic functions, Analyticity, Harmonic Functions, Sequences of Functions, Uniform Convergence, Maclaurin and Taylor Series, Operations on Power series, Taylor's Theorem, Cauchy's Estimate, Zeros of	01/10/2022 To 10/11/2022	15		Home assignment

	an analytic function, Louville's Theorem, Fundamental Theorem of Algebra, Maximum Modulus Theorem.				
	Unit –III: Curves , Parameterizations, Line Integrals, Cauchy's Theorems. Index of a closed curve, Cauchy's Theorem, Cauchy's Integral Formula, Morera's Theorem, The Homotopic version of Cauchy's Theorem and simple connectivity, Counting of Zeros, The Open mapping Theorem, Goursat's theorem.	11/11/2022 To 30/11/2022	15		Assignment solve
	Unit –IV: Singularities, Classification of Singularities, Laurent's Series, Casorati-Weierstrass Theorem, Residues, Cauchy's Residue Theorem, Evaluation of Integrals, Meromorphic functions, The Argument Principle, Rouche' Theorem, Schwartz Lemma. Convex Functions and Hadamard's three Circles Theorem, The Riemann mapping Theorem.	01/12/2022 To 20/12/2022	14		Homework examples

Course Teacher
Miss. S.D.Shinde

Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

Principal 27.9.22

PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur

DEPARTMENT OF MATHEMATICS RSML

Shiv Chhatrapati Shikshan Sanstha's

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.	M.Sc.II	Miss. S.D.Shinde	Mathematics	Cource Title: Field Theory Cource Code: P-FIT-461

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	Introduction	8/12/2022 to 31/12/2022	15	Discussion	
2	UNIT – II	Field extension	2/01/2023 to 25/01/2023	15		Assignment on unit I and II
3	UNIT – III	Normal and separable extension	26/01/2023to 28/02/2023	15	Problem solving	
4	UNIT – IV	The Galois Group	1/03/2023 to 29/03/2023	15		Assignment on unit III and IV

Teacher

miss. s. D. shinde

Head

Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Principal

PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur

Shiv Chhatrapati Shikshan Sanstha's

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	M.Sc.II	Miss. S.D.Shinde	Mathematics	Cource Title: Lab Work (Foundation Analysis II) Cource Code: P-LAB-465

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 integral	12/12/2022 to 25/01/2023	30	Problem solving	Homework problems
2	UNIT – II	Function of Several variables	26/01/2022 to 29/03/2023	30		Homework problems

Teacher

miss. S.D.shinde

Head

Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Principal

Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya (Autonomous), Latur

Structured Work Plan for Teaching

Sr. No.	Class	Name of the Teacher	Subject	Paper
1.	M.Sc.I	Miss. S.D.Shinde	Mathematics	Cource Title: Topology Cource Code: P-TOP-266

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	Introduction	12/01/2023 to 31/01/2023	12	Discussion	
2	UNIT – II	Basis for Topology	01/02/2023 to 25/02/2023	16		Assignment on unit I and II
3	UNIT – III	Connected and Compact Spaces	27/02/2023to 23/03/2023	17	Problem solving	
4	UNIT – IV	Normal Spaces	24/03/2023 to 08/04/2023	15		Assignment on unit III and IV

Teacher

Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Rajarshi Shahu Mahavidyalaya Latur (Autonomous)

Principal
PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur

Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya (Autonomous), Latur

Structured Work Plan for Teaching

Sr. No.	Class	Name of the Teacher	Subject	Paper
1.	M.Sc.I	Miss. S.D.Shinde	Mathematics	Cource Title: Partial Diffrential Equations Cource Code: P-PDE-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	Introduction	12/01/2023 to 04/02/2023	18	Discussion	
2	UNIT – II	Second order PDE	06/02/2023 to 28/02/2023	15		Assignment on unit I and II
3	UNIT – III	Dirichlet and Neumann problem	01/03/2023to 27/03/2023	15	Problem solving	
4	UNIT – IV	PDE in the case of n-Variable	28/03/2023 to 08/04/2023	12		Assignment on unit III and IV

Teacher

Head
Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya,
(Autonomous) Latur-413512

Rajarshi Shahu Mahavidyalaya Latur (Autonomous)

Principal
PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur