

## RajarshiShahuMahavidyalaya (Autonomous), Latur

Department of Mathematics

Structured Work Plan for Teaching

FirstTerm (Jun 2022 to Oct2022)

### Name: Vishnu Rajendra Sonwane

### Details of Classes to be taught

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28 Lectures/Week	TOTAL	A THE RESIDENCE OF THE PROPERTY OF THE PROPERT			III Sem	M.ScII	တ
02	Project Guidence(2 Group)	p.pRO-370			III Sem	M.ScII	7
01	Seminar	P-SEM-371			1 36111	V .3C1	6
	Seminar	P-SEM-170	September 19 and 19	MIL.V.N.SOHWHILE	1 Cam	IVI.JC II	
Ub	Classical Mechanics	P-COT-368(A)	Mathematics	N. V. D. Convins	III Sem	M C II	Total Control
	Theory of propability	P-THP-163(B)		-	1 Som	N C	- Company
PK .	Approximate the second control of the second	fulner. mm. A			V Sem	B.Sc.III	נג
90	(Lab Course)	ILMAT.SSRIAI		ra difference an	V SCM	B.Sc.III	~
	Linear Algebra	U-MAT-556(A)			A CONTRACTOR SOURCE STATE OF THE SOURCE STATE	D.JL.	-
	Calculus	U-MAT-139		pont of Caragonian and a service of	I Som	D C -	Allen Dellace a reco
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	raper	Contre Code	Subject	Semester Name of Asst.	Semester	Class	Sr.

Course Teacher

Mr. Vishnu R. Sonwane





Name of Teacher: V.R.Sonwane 1. Summary of Lesson Plan Class: B.Sc.I (I - Semester) Calculus Course Code:U-MAT-139

Paper-II

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The state of the s													Mathematics			Subject
of limits, one sided limits, limits at infinity and infinite limits Continuous 07/08/2022 infinity and infinite limits Continuous 07/08/2022 infinity and infinite limits Continuous 07/08/2022 infinity and infinity of a function, algebra of continuous function, 03/09/2022	functions, bounded and unbounded functions, limit of a function, algebra	Algebraic operations on	Continuity	Unit II: Real Functions, Limit and	countable and uncountable sets.	a set, Interior and exterior of a set,	a set, open and Closed sets: Closure of	Value of a Real Number, Limit points of	order completeness of R, Absolute	unbounded sets Supremum, Infimum,	as complete order field Bounded and	Real numbers system: Introduction, R	Unit I: The Real Numbers: The			Unit and Chapter to be covered
569N 94KN to her 07/08/2022 -1916 (auomo 03/09/2022										06/08/2022	10/07/2022 To					Date
(Auton Belentu Debau											12				Lectures	No. of
Quiz.										Guest lecture.				organized	activities to be	Academic
Assignment of Unit Second before 06/09/2022										08/08/2022	first before	Assignment of Unit		topic and date	Assignment with	No. of Test /

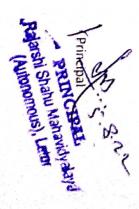
value theorem. Lagrange's mean value theorem. derivative, sign of derivative at a point, closed finite properties of functions continuous in value theorem, generalized mean monotonic functions, Cauchy's mean Increasing and decreasing functions, Unit IV: Mean Value Theorems Darboux's theorem, derivatives, geometrical meaning of Derivability of a function, Algebra of Unit III: The Derivatives continuity. Cauchy's criterion for finite Rolle's Mean value theorem, intervals, Uniform limits, 25/09/2022 15/10/2022 24/09/2022 04/09/2022 09 80 Quiz. Guest lecture. Assignment of Unit fourth before 30/09/2022 Assignment of Unit 17/10/2022 thirdbefore

Course Teacher

Mr. Vishnu R. Sonwane

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





2. Summary of Lesson Plan

Name of Teacher: V.R.Sonwane Class: B.Sc.III(V-Semester) Linear Algebra Course C

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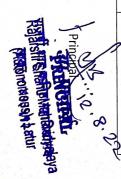
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4 5 5													, <u>, , , , , , , , , , , , , , , , , , </u>		No.
Carbononador 7 sun April 18 superior augusta													Mathematics		
Definition and Examples, 21/07/2022  Length and distance in inner product. To a heap of the parameters and properties. Cauchy-Schwarzs 80/08/20220/11/115u/)  inequality, Properties of Length and	(only statements) Unit II Inner Product Space	statements), Rank-nullity for Matrices	column space and null space (only	.Coordinate to basis, Row space,	independence, Basis and Dimension	Vectors. Linear dependence and	Combination of vectors, linear span of	space of homogeneous systems, Linear	simple properties. Subspace, solution 20/07/2022	Vector Space definition, examples and To	Space. Norm and distance in n-space, 20/06/2022	Vector operations in $\mathbb{R}^n$ , Euclidean N	Unit-1 Vector Space Properties of		
07/2022 08/2022									20/07/2022	То	20/06/2022				
Monsur)										15					Lectures
Quiz.								lecture.	Guest	47				organized	activities
Assignment before 06/08/2022	•							25/07/2022	Assignment before					,	with topic and date

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	matrices of linear transformations.	matrix transformation, Standard	vectors ,All Linear transformations are	Transformation from images of basis	Transformation from $R^n$ to $R^m$ ,Linear	Linear Transformation .Linear	transformation .Dimension theorem of 12/10/2022	Kernel and range of linear	Linear transformations, properties, 01/08/2022	Definition and Example of	Unit III Linear Transformation	methods (Examples only)	orthonormal bases, Gram-Schmidt	co-ordinate relative to orthogonal and	Orthogonal and orthonormal bases,	between vectors, orthogonality,	distances in inner product space, Angle
							12/10/2022	То	01/08/2022								
							17										
						Seminar											
2	2						12/10/2022	Assignment before									
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Mr. Vishnu R. Sonwane

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





Name of Teacher: V.R.Sonwane 3. Summary of Lesson Plan

Class: B.Sc.III (V - Ser

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Paper-VIII(A)

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Linear Alge	
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Course Cod	
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			1	ividulelliducs	Mathamatica		Subject
Practical-21 to Practical-30	Practical-11 to Practical-20			Practical-1 to Practical-10			Practical to be covered
01/09/2022 To 15/10/2022	03/08/2022 To 30/08/2022	02/07/2022	То	04/07/2022			Date
10	10		10			Lectures	No. of
Exercise.  Question solved	Exercise  Question solved	Question solved	Exercise		organized	activities to be	Academic
					topic and date	Assignment with	No. of Test /

Mr. Vishnu R. Sonwane

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



Rajershi Shahu Mahavidyalaya (Autonomous), Letur

5. Summary of Lesson Plan
Name of Teacher: V.R.Sonwane

Class: M.Sc.II (III- Semester): Classical MechanicsCourse Code:P-COT-368(A)

Paper-XIV

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								Mathematics	Subject
applications of the Lagranian formulation.  ONIT — II  Cyclic co-ordinates and generalized	as a homogeneous function of generalized velocities. Simple	conservative and partially non conservative systems. Kinetic energy	Lagrange's equations of motion for non conservative systems and partially	Alembert's principle, Lagrange's equations of motion. The forms of	forces with examples, Constraints, Generalized co-ordinates. D.	Mechanics of system of particles, Conservation theorems conservative	Mechanical of system of particles,	UNIT-I	Unit and Chapter to be covered
nian , best, section of the section				13/07/2022	70/06/2022 To				Date
Deportment Williams (Strategies)					15				No. of Lectures
email .					Guest lecture				Academic activities to be organized
				72/01/5022	Assignment before				No. of Test / Assignment with topic and date

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	of the least action principle, cyclic collismon's M in Indominação exemplos principles of the least action principle, cyclic collismon's M in Indominação exemplos principles and Routh's procedure.	principle of least action, Jacobi's form	significance of Hamiltonian, the	from variational principle, Physical	Derivation of Hamilton's equations	canonical equations of motion,	Hamiltonian function, Hamilton's	UNIT – III	problems of maximum enclosed area.	problem. Isoperimetric problems,	surface of revolution, Brachistochrome	Geodesics in a plane, the minimum	several dependent variables,	Lagrange's equation, the case of	equation, First integrals of Euler	Calculus of variation, Euler Lagrange's	momentum conservation Theorems,
	Cantonomous) Latur 413515 (Autonomous) Latur 413515 (Autonomous) Latur 413515	ir vo	14/09/2022	13/08/2022 To									12/08/2022	То	14/07/2022		
	eminsqoQ n2 irlans(sP nonoluA)			15										15			
				Seminar										Quiz.			3.
				Assignment before 22/09/2022									25/08/2022	Assignment before			

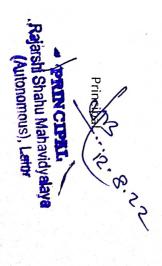
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of motion of a rigid body about a point.	Angular momentum and kinetic energy		rotations, The Eulerian angles, The	transformation matrix, Infinitesimal	transformations, Properties of	rigid body,Orthogonal	The independent co-ordinates of a	UNIT - IV
		14/10/2022	To	15/09/2022				
			15					
			Scillia	Coming				
			15/10/2022	Assignment hotoro				

Course Teacher

Mr. Vishnu R. Sonwane

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





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		M.ScII	4		M.ScII			M.ScI
		Project			Seminar			Seminar
Oct 2022	То	July 2022	Oct 2022	То	July 2022	Oct 2022	То	July 2022
		20			20			20
	project	6 Student per		With the second	2 student per		V C Z	2 student per
	group	2- Project						

Course Teacher

Mr. Vishnu R. Sonwane

Head,

Department of Matheve etics,
Rajarshi Shahu Mahavidyalaye,
(Autonomous) Latur-413512



PRUNCIPAL Rajarshi Shahu Mahavidyalaya (Autonomous), Lator

# RajarshiShahuMahavidyalaya (Autonomous), Latur

**Department of Mathematics** 

**Structured Work Plan for Teaching** 

FirstTerm (Jun 2022 to Oct2022)
For ph-I (54-2022 to Dec 2002)

Name: Vishnu Rajendra Sonwane

### 1. Details of Classes to be taught

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	M.ScII	M.ScII	M.ScI	M.Sc II	M.Sc I	B.Sc.III	B.Sc.III	B.Sc.I		Class
	III Sem	III Sem	I Sem	III Sem	I Sem	V Sem	V Sem	I Sem		Semester
				Mr.V.R.Sonwane					Prof.	Semester Name of Asst.
				Mathematics				Neg C	- 4114	Subject
	P-PRO-370	P-SEM-371	P-SEM-170	P-COT-368(A)	P-THP-163(B)	U-MAT-558(A)	U-MAT-556(A)	U-MAT-139		Course Code
TOTAL	Project Guidence(2 Group)	Seminar	Seminar	Classical Mechanics	Theory of probability	Linear Algebra(Lab Course)	Linear Algebra	Calculus		Paper
28 Lectures/Week	02	01	01	06	06	06	03	03		Workload



Mr. Vishnu R. Sonwane





PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur

Name of Teacher: V.R.Sonwane 4. Summary of Lesson Plan

Class: M.Sc.I (I - Semester) Theory of probability

Course Code:P-THP-168

Paper-IV

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function, Properties of Moment generating function, Cumulants and its	Wattance, Moment generating.	of expectation, Variance, Properties of	Mathematical expectation, Properties	variable, Probability density function,	random variable, Continuous random	Types , Probability function of discrete	Unit II: Random variables,	Baye's theorem.	addition and axiom of continuity,	Examples, Extended axiom of axiom of	probability of independent events,	probability, Multiplication theorem of	Theorems on probability, Conditional	Axiomatic approach to probability,	probability, Subjective Probability,	Mathematical and statistical	Unit I: Basic Definitions,		Unit and Chapter to be covered
(SP)			15/10/2022	To	28/09/2022									27/09/2022	12/09/2022 To				Date
	Ď.			15											14			Lectures	No. of
				Quiz.											Guest lecture.			organized organized	Academic
			Second before	Assignment of Unit									TITST perore	Assignment of Onit	A limboratory of the limit			topic and date	No. of lest /

properties. Moments of normal distribution, MGF  $\begin{vmatrix} To \\ 20/12/2022 \end{vmatrix}$ distribution. and CGF and fitting of normal Properties of normal distribution, 30/11/2022 distribution. distribution, Fitting of Poisson distribution, MGF and CGF of Poisson Mean and variance of Poisson distribution, Poisson distribution, distribution, MGF and CGF of Binomial | 29/11/2022 Mean and Variance of binomial  $\frac{07/11/2022}{T_0}$ distributions, Binomial distribution, distribution, Fitting of binomial Unit IV: Normal distribution, Unit III: Discrete Probability 15 16 Quiz SET/NET Workshop Assignment of Unit fourth before third before. Assignment of Unit



Mr. Vishnu R. Sonwane

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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	B.Sc. I Year	Mr. V. R. Sonwane	Mathematics	Analytical Geometry	

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	Change of axes	08 Dec 2022 to 13 Jan 2023	15	Surprise Test	Assignment on unit I
2	UNIT – II	The plane	14 Jan 2023 to 30 Jan 2023	15	Poster Presentation	Assignment on unit II
3	UNIT – III	Right line	31 Jan 2023 to 28 Feb 2023	15	Quiz Competition	Assignment on unit III
4	UNIT – IV	The sphere	01 Mar 2023 to 29 Mar 2023	15	Quiz Competition	Assignment on unit IV

Teacher Mr. V.R. Sonwana Department of Mathematics, Rajarshi Shahu Mahavidyalaya, (Autonomous) Latur-413512

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)

2	B.Sc. III Year	Mr. V. R. Sonwane	Mathematics	Theory of Probability	
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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	Basics of Probability	8 Dec 2022 To 13 Jan 2023	15	Poster Presentation	Assignment on unit I
2.	UNIT – II	Random variables	14 Jan 2023 to 23 Feb 2023	15	IIT-JAM Entrance preparation	Unit Test-I
3	UNIT – III	Discrete Probability distributions	24 Feb 2023 To 29 Mar 2023	15	Quiz Competition	Unit Test-II

Teacher Mg. V.R. Sonwan

Head

Head,

Department of Mathematics,

Rajarshi Shahu Mahavidyala,

(Autonomous) Latur-413512

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)

-3	M.Sc. II year	Mr. V. R. Sonwane	Mathematics	Numerical Analysis

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	Iterative solutions of nonlinear equation	8 Dec 2022 to 31 Dec 2022	20	Surprise Test	Assignment on unit I
2	UNIT – II	Polynomial interpolation	02 Jan 2023 to 21 Jan 2023	15	Quiz	Unit Test-I
3	UNIT – III	Linear systems of Equations	23 Jan 2023 to 02 Feb 2023	10	Solving Exercise problem	Assignment on unit III
4	UNIT – IV	Numerical Calculus	02 Feb 2023 To 29 Mar 2023	15	Seminar	Unit Test-II

Teacher Mr. V.R. Sonwani

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

2	B.Sc. III Year	Mr. V. R. Sonwane	Mathematics	Theory of Probability( Practical)

Sr. No.	Unit	Practical to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test/ Assignment with topic and date
1	UNIT – I	Practical-1 to Practical-10	8 Dec 2022 To 13 Jan 2023	15	Problem Solving	Homework problems
2	UNIT – II	Practical-11 to Practical-20	14 Jan 2023 to 23 Feb 2023	15		Homework problems
3	UNIT – III	Practical-21 to Practical-30	24 Feb 2023 To 29 Mar 2023	15		Homework problems

Teacher Mr. V. R. Sonwani

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

Principal
PRINCIPAL
Rajarshi Shahu Mahavidyalaya
(Autonomous), Latur