Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

Department of Mathematics

Structured Work Plan for Teaching

(29/06/2018 to 05/10/2018)

1. Details of Classes to be taught

Sr. No.	Class	Name of Asstt. Prof.	Subject	Paper
1	B.Sc-II (Sem-III)	Mahesh S Wavare	Mathematics	Group Theory
2	B.Sc-II(Sem-IV)			SEC on R software -I [Theory +Practical]
3	M.Sc-I (Sem-I)			Latex Practical
4	M.Sc-II(Sem-III)			Coding Theory –I
5	M.Sc-II(Sem-III)			Research Project of allocated M.Sc -II year students
6	M.Sc-I (Sem-I)			Seminar of Allocated students
7	M.Sc-II (Sem-III)			Seminar of Allocated students
8				

2. Summary of Lesson Plan of U-MAT -340 (Paper VI) Group Theory

Name of Teacher: Mahesh S Wavare **Class : B.Sc.II (Third Semester)**

Sr. No.	**Subject**	**Unit and Chapter to be covered**	**Date**	**No. of Lectures**	**Academic activities to be organized**	**No. of Test / Assignment with topic and date**
1	Maths	***Unit I:*** Definition of group, subgroups, Elementary properties of groups, finite groups, cyclic groups and its properties.	29/06/2018 to 25/07/2018	8 3 5	Guest Lecture	Assignment on unit 1
2		***Unit II:*** Symmetric groups, Permutations, Group isomorphism, Automorphism and their properties, Cayleys theorem	26/07/2018 to 05/09/2018	8 7	Surprise test	Assignment on unit 2
3		***Unit III:*** Definition of cosets 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.	06/09/2018 To 05/10/2018	6 3 3 3	Guest lecture	

3. Summary of Lesson Plan of Skill enhancement course on R Software -I **(Theory and Practical)**

Name of Teacher: Mahesh S Wavare **Class : B.Sc.II (Third Semester)**

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Maths	**Section-I** **Skill- I** Basic fundamentals, installation and use of software, data editing, use of R as a calculator, functions and assignments.Use of R as a calculator, functions and matrix operations, missing data and logical operators.	1/08/2018 To 31/08/2018	03 04 04 04	Showing NPTEL video lectures	Assignment of NPTEL
2		**Section-II** **Skill-II** Conditional executions and loops, data management with sequences. Data management with repeats, sorting, ordering, and lists	1/09/2018 To 05/10/2018	04 04 07	Showing NPTEL video lectures	Assignment of NPTEL

4. Summary of Lesson Plan of Coding Theory –II P-ABA-164

Name of Teacher: Mahesh S Wavare **Class : M.Sc. I (First Semester)**

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Maths	***Unit I:*** Groups, semi groups and groups, Homomorphism, Subgroups and cosets, Cyclic groups, Generators and relations, Normal subgroup and quotient group, Isomorphism theorems, Automorphism, Conjugacy and *G*-sets,	09/07/2018 To 30/07/2018	15	Guest Lecture	Assignment as preparation of PPT
2		***Unit II:*** Isomorphism theorems, Automorphism, Conjugacy and *G*-sets, Normal series, Solvable groups, Nilpotent groups.	31/07/2018 to 30/08/2018	15	Seminar by students	Unit Test -I

3		***Unit –III*** Group Homomorphism, First Isomorphism Theorem, Fundamental Theorem of Finite Abelian Groups, Permutation Groups, Cyclic decomposition, Alternating group A_n	31/08/2018 To 20/09/2018	15		Assignment solve
4		***Unit-IV*** Structure of groups, Direct product, Finitely Generated Abelian Groups, Invariants of a finite abelian group, Sylow Theorems and its applications	21/09/2018 To 05/10/2019	15	Guest lecture	assignment solve

Sign of Teaching Staff

(M . S. Wavare)

(M . S. Wavare)

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

Principal

PRINCIPAL
Rajarshi Shahu Mahavidyalaya,Latur
(Autonomous)

5.. Summary of Lesson Plan of Coding Theory –II P-COT-467(A)

Name of Teacher: Mahesh S Wavare **Class : M.Sc. I (Third Semester)**

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Maths	***Unit I:*** Error detection, correction and decoding introduction, Communication channels, Maximum livelihood decoding, Hamming distance, nearest neighbor / minimum distance, decoding distance of a code.	02/07/2018 To 30/07/2018	12	Guest Lecture	Assignment as preparation of PPT
2		***Unit II:*** Fields polynomials rings structure of finite fields, minimal polynomials vector spaces over finite fields	31/07/2018 to 20/08/2018	16	Seminar by students	Unit Test -I
3		***Unit –III*** Linear codes , Hamming weight bases for linear codes , Generator matrix and parity check matrix, Equivalence of linear codes , Encoding with linear codes , Decoding of linear codes, Cosets nearest neighbor ,decoding for linear codes syndrome decoding	21/08/2018 to 10/09/2018	16		Assignment solve

4		*Unit-IV* The main coding theory problem lower bounds sphere covering bound Gilber-Varshamav bound hamming bounds and perfect codes, Binary Hamming codes, q-ray Hamming codes	11/09/2018 to 05/10/2018	16	Guest lecture	Homework Examples

Sign of Teaching Staff

(M . S. Wavare)

Head,
Department of Mathematics,
Rajarshi Shahu Mahavidyalaya.
(Autonomous) Latur-413512
(M . S. Wavare)

Principal

PRINCIPAL
Rajarshi Shahu Mahavidyalaya,Latur
(Autonomous)

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

Rajarshi Shahu Mahavidyalaya, Latur

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Department of Mathematics

Structured Work Plan for Teaching

(29/11/2018 to 21/03/2019)

1. Details of Classes to be taught

Sr. No.	Class	Name of Asstt. Prof.	Subject	Paper
1	B.Sc-II (Sem-IV)	Mahesh S Wavare	Mathematics	Ring Theory
2	B.Sc-II(Sem-IV)			SEC on R software -II [Theory +Practical]
3	M.Sc-I (Sem-II)			Latex Practical
4	M.Sc-II(Sem-IV)			Coding Theory –II
5	B.SC-III(Sem-VI)			Research Project of allocated B.Sc -III year students
6	M.Sc-II(Sem-IV)			Research Project of allocated M.Sc -II year students
7	M.Sc-I (Sem-II)			Seminar of Allocated students
8	M.Sc-II (Sem-IV)			Seminar of Allocated students

2. Summary of Lesson Plan of U-MAT -440 (Paper VIII) Ring Theory

Name of Teacher: Mahesh S Wavare **Class : B.Sc.II (Fourth Semester)**

Sr. No.	**Subject**	**Unit and Chapter to be covered**	**Date**	**No. of Lectures**	**Academic activities to be organized**	**No. of Test / Assignment with topic and date**
1	Maths	***Unit I:*** Definition and examples of rings, some special classes of rings, Homeomorphisms, Isomorphism	29/11/2019 to 29/12/2019	5 5 5	Guest Lecture	Assignment on unit 1
2		***Unit II:*** Ideals and quotients rings, More ideals and quotients rings, the field of quotients of an integral domains .	3/01/2019 to 8/02/2019	5 6 4	Surprise test	Assignment on unit 2
3		***Unit III:*** Euclidean rings, A particular Euclidean ring (Ring of Gaussian Integers), Polynomial rings, Polynomial oven the rational fields.	9/2/2019 To 17/03/2018	6 3 6	Guest lecture	

3. Summary of Lesson Plan of Skill enhancement course on R Software -II (**Theory**)

Name of Teacher: Mahesh S Wavare **Class : B.Sc.II (Fourth Semester)**

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectures	Academic activities to be organized	No. of Test / Assignment with topic and date
1	Maths	**Section-I** Vector indexing, factors, Data management with strings, Display and formatting. Data management with display paste, split, find and replacement, manipulations with alphabets, evaluation of strings, Data frames, import of external data in various file formats, statistical functions, compilation of data.	3/12/2018 To 25/01/2019	03 03 03 03 03	Showing NPTEL video lectures	Assignment of NPTEL
2		**Section-II** Graphics and plots, statistical functions for central tendency, variation, skewness and kurtosis, handling of bivarite data through graphics, correlations, programming and illustration with examples.	1/02/2019 To 20/03/2019	03 04 03 02 04	Showing NPTEL video lectures	Assignment of NPTEL

4. Summary of Lesson Plan of Coding Theory –II P-COT-467(A)

Name of Teacher: Mahesh S Wavare **Class : M.Sc. II (Fourth Semester)**

Sr. No.	**Subject**	**Unit and Chapter to be covered**	**Date**	**No. of Lectures**	**Academic activities to be organized**	**No. of Test / Assignment with topic and date**
1	Maths	***Unit I:*** Construction of Linear codes, propogation Rules Reed -Mullar codes, Subfield codes	29/11/2019 To 15/12/2018	04 04 04 04	Guest Lecture	Assignment as preparation of PPT
2		***Unit II:*** Definition of cyclic codes, generator polynomial, Generator and parity check matrices, Decoding of cyclic codes, Bust error correcting codes.	17/12/2018 to 10/01/2019	2 4 5 4 4	Seminar by students	NPTEL registration Unit Test -I
3		***Unit –III*** B.C.H codes, definations, Parameters of B.C.H codes, Decoding of B.C.H codes, Reed Soleman codes, Quadratic rercidue code	11/01/2019 To 15/2/2018	18		NPTEL Assignment solve

4		***Unit-IV*** Generelised reed – Solemon codes , Alterment codes , Goppa codes, Sudaan decoding or Generalized R.S codes, Generation of (p,k,t) polynomial	16/2/2019 To 20/03/2019	05 05 04 03 03	Guest lecture	NPTEL assignment solve

Sign of Teaching Staff

(M . S. Wavare)

Head

(M . S. Wavare)

HEAD
Dept. of Mathematics
Rajarshi Shahu College,
LATUR – 413 512.

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

Principal

PRINCIPAL
Rajarshi Shahu Mahavidyalaya
LATUR – 413512