

# Rajarshi Shahu Mahavidyalaya, Latur

**( Autonomous )**

## Structured Work Plan for Teaching

**(Dec-2018 to March-2019)**

### 1. Details of Classes to be taught

Sr. No.	Class	Name of Asstt. Prof.	Subject	Paper
1	B. Sc. BT FY Div A & B	Ms. S R Surwase	Biotechnology	Fundamentals of Biological Chemistry

### 2. Summary of Lesson Plan

Name of Teacher: Ms. S R Surwase

Class: B. Sc. BT FY Div A & B (Second Semester)

Subject	Practical to be covered	Date	No. of Practicals
Fundamentals of Biological Chemistry	1. Preparation of solutions, buffer sensitivity, specificity accuracy, Molarities, molality, Normality.	03, 04 & 05.12.18	03
	2. Qualitative test for carbohydrates	10, 11 & 12.12.18	03
	3. Estimation of reducing sugars by Benedict's Method	17, 18 & 19.12.18	03
	4. Spot tests for Amino Acids	24, 25 & 26.12.18	03
	5. Estimation of Amino acids	01, 02 & 03.12.18	03
	6. Protein estimation	07, 08 & 09.01.19	03
	07. Saponification of Fats	14, 15 & 16.01.19	03

	08. Estimation of Cholesterol	28, 29 & 30.01.19	03
	09. Sugar estimation by DNSA	04,05 & 06.02.19	03
	10. Sugar estimation by Anthrone Method	18,19 & 20.02.19	03
	11. DNA estimation by DPA Method.	05, 06 & 07.03.19	03

# Rajarshi Shahu Mahavidyalaya, Latur

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### Structured Work Plan for Teaching

(June – 2018 to March . 2020)

#### Details of Classes to be taught

Sr. No.	Class	Name of Asstt. Prof.	Subject	Paper
1	B.Sc.II	Shilpa R.Surwase	Biotechnology	Course Title: Immunology and Virology Course Code : U-IMV-399 Course Title: Lab Course X Course Code:U-LAC-403
2	B.Sc I			Course Title: Introduction To Microbiology Course Code : U-INM-189 Course Title: Lab Course III Course Code: U-LAC-193

#### 1. Summary of Lesson Plan

Name of Teacher: Shilpa R.Surwase

Class : B.Sc. BT. 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	<b>Immunology and Virology</b>	<b>UNIT I</b> Overview of Immunology  1. Historical perspective 2. Innate and Adaptive Immune response. 3. Hematopoiesis, 4. Cells of Immune system and their biological role. 5. Humoral and cell mediated Immunity. 6. The Primary and secondary lymphoid organs.	01-08-18 To 14-08-18	01 05 02 02 01  03	Classroom Group Discussion	Unit – I 20/08/18

	<p><b>UNIT II</b>  Basics of Immunology  1. Antigen: Antigens-  General properties, types,  2. Factors that influence  antigenicity,  3. Epitopes, Paratopes,  Haptens, adjuvant and its  types.  4. Antibody: General  Structure of antibody  molecule,  5. Antibodies- variation in  structure of antibody and  their biological  significance.  6. Antibody Antigen  interactions: Strength of  Antigen-Antibody  Interactions, <math>K_a</math> and <math>K_d</math>  with its importance,  Affinity and avidity  7. Immunological reactions:  Precipitation and  Agglutination reactions,  ELISA.</p>	<p>15-08-18  To  30-08-18</p>	<p>01  02  02  02  02  03  04</p>		<p>Unit – II  29/08/18</p>
	<p><b>UNIT III</b>  Introduction to viruses  1. Viruses and their  importance.  2. Discovery of viruses.  3. Structure of virus: viral  nucleic acid, nucleocapsid,  envelope.  4. Variation in structure of  viruses.  5. Viroids and Prions.  6. Nomenclature and  Classification of viruses</p>	<p>31-08-18  To  15-09-18</p>	<p>01  01  03  01  01  04</p>		<p>Unit – III  10/09/18</p>
	<p><b>UNIT IV</b>  1. Structure of animal  virus(HIV)  2. Structure of plant virus  (TMV).</p>	<p>17-09-18  To  03-10-18</p>	<p>03  02  02  02</p>		<p>Unit IV  20/09/18</p>

		3.Life cycle and replication of DNA virus, 4.RNA virus-Retrovirus, 5.Bacteriophages (lytic and lysogenic) 5.Vaccines 6.Antiviral drugs.		02 02 02		
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Sr. No.	Subject	Practicals	Date	No. of Practicals
1	Immunology and Virology	Agglutination reaction.	Batch A, B1/08/18 To 3/10/18  ,C,D	04
2		Immunoprecipitation.		04
3		Immunodiffusion.		04
4		Blood film preparation and identification of cells.		04
5		Differential leucocyte count		04
6		Microscopic observation of lymphoid organs.		04
7		Widal, VDRL		04
8		Demonstration of ELISA.		04
9		Isolation of Bacteriophages from sewage.		04
10		Titration of phage, Isolation of plant virus.		04
11		Demonstration of one step growth curve of Bacteriophages.		04
12		Cultivation of virus in embryonated eggs.		04

Name of Teacher: Shilpa R.Surwase

Class : B.Sc. BT. I (First Semester)

Sr. No.	Subject	Practicals	Date	No. of Practical
1	<b>Introduction to Microbiology</b>	1. General Rules and Safety in Microbiology Laboratory.	1/08/18 To 3/10/18  Batch C And D	02
2		2. Study of basic requirements in Microbiology Laboratory- Autoclave, Hot air oven & Incubator		02
3		Staining techniques (Monochrome staining, Grams staining ,Negative staining)		02
4		Preparation of solid and liquid media		02
5		Isolation of bacteria by spread plate, streak plate and pours plate method		02
6		Isolation of microorganisms from soil, water and air		02
7		Isolation of microorganisms by using selective media.		02
8		Study of motility of Microorganisms by hanging drop method		02
9		Study of bacterial growth curve .		02
10		Effect of environment on growth of microorganisms.		02