

Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

Department of Biotechnology Structured Work Plan for Teaching

Structured Work Plan for Teaching Academic Year 2018-19 (Term-I)

Sr. No.	Class	Name of Asst. Prof.	Subject	Paper
1	B.Sc.II	Manisha A. Dhotre	Biotechnology	Course Title: Metabolism Course Code: U-MET-401 Course Title: Lab Course XII Course Code: U-LAC-412

1. Summary of Lesson Plan

Name of Teacher: Manisha A. Dhotre

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	Metabolism	Unit1				Unit – I
		1.Respiration	A Property	01		07/08/18
		2.aerobic respiration – glycolysis and	22-06-18	02	TUTOTRIALS	Unit – II
		its regulation	То	eitan súa	Classroom	4/10/18
		3.Krebs cycles and its	14-07-18	02		
		regulation4.Substrate Level		01	Group Discussion	
		Phosphorylation 5.oxidative phosphorylation: ETC and its		03	1 1921	
		inhibitors 6.Electrochemical proton	ma arl me a la	03		
		gradientchemiosmotic theory, ATP synthase, 7.P/O ratio,pasteur		01		
		effect, warburg effect, respiratory quotient		02		
		8. Alchohol and Lactic acid		ware Ca		
		Fermentation, cori cycle.				
		Unit II				
		1.Photosynthesis		01		

2. photosynthetic pigments, concept		T		
	16-07-18	03	.159	
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The state of the s	04-08-18			
Callifornia americani de la casa de casa de la casa de		03		
		01		
		21.0		100
Phylographic address Acceptable		04		
	District Control	1 1212 10 200	7	
		01		
		02		
3. Entner-Doudoroff PW		01		
y v	06-08-18	04		In this of
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	10-09-18			.531
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		03		
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oxidation		130 11 11 11		
7. Ketone bodies		01		
	0			
		00		
AD .	11 00 10	03		
		02		
	2-10-18	01		
4. Nucleotide Metabolism		02		
Nucleotide synthesis: De-Novo				
5. Salvage PW				
6. Nucleotide degradation.				
	 4. Carbohydrate metabolism – Gluconeogenesis, Glycogenolysis. 5. Lipid Meatbolism – Biosynthesis of FA 6. Fatty acid oxidation, alternative PW of fatty acid oxidation 7. Ketone bodies Unit IV 1. Amino acid Metabolism: Amino acid synthesis 2. Amino acid catabolism 3. urea cycle. 4. Nucleotide Metabolism Nucleotide synthesis: De-Novo 5. Salvage PW 	of photosynthetic unit, Hill reaction, oxygenic &anoxygenic photosynthesis 3. Light reaction: Cyclic and Non Cyclic 4. Photophosphorylation 5. Dark reaction: C ₃ , C ₄ , CAM, Photorespiration Unit III 1. Glyoxylate PW. 2. Pentose Phosphate Pathway 3. Entner-Doudoroff PW 4. Carbohydrate metabolism – Gluconeogenesis, Glycogenesis, Glycogenolysis. 5. Lipid Meatbolism – Biosynthesis of FA 6. Fatty acid oxidation, alternative PW of fatty acid oxidation 7. Ketone bodies Unit IV 1. Amino acid Metabolism: Amino acid synthesis 2. Amino acid catabolism 3. urea cycle. 4. Nucleotide Metabolism Nucleotide synthesis: De-Novo 5. Salvage PW	of photosynthetic unit, Hill reaction, oxygenic &anoxygenic To photosynthesis 04-08-18 3. Light reaction: Cyclic and Non Cyclic 4.Photophosphorylation 01 5. Dark reaction: C3, C4, CAM, Photorespiration 01 Unit III 1. Glyoxylate PW. 2. Pentose Phosphate Pathway 3. Entner-Doudoroff PW 4. Carbohydrate metabolism - Gluconeogenesis, Glycogenolysis. 5. Lipid Meatbolism - Biosynthesis of FA 6. Fatty acid oxidation, alternative PW of fatty acid oxidation 7. Ketone bodies 01 Unit IV 1. Amino acid Metabolism: Amino acid synthesis 11-09-18 2. Amino acid catabolism 70 3. urea cycle. 3-10-18 01 Nucleotide Synthesis: De-Novo 5. Salvage PW 03	of photosynthetic unit, Hill reaction, oxygenic & &anoxygenic photosynthesis 3. Light reaction: Cyclic and Non Cyclic 4.Photophosphorylation 5. Dark reaction: C3, C4, CAM, Photorespiration Unit III 1. Glyoxylate PW. 2. Pentose Phosphate Pathway 3. Entner-Doudoroff PW 4. Carbohydrate metabolism — Gluconeogenesis, Glycogenesis, Glycogenolysis. 5. Lipid Meatbolism — Biosynthesis of FA 6. Fatty acid oxidation, alternative PW of fatty acid oxidation 7. Ketone bodies Unit IV 1. Amino acid Metabolism: Amino acid synthesis 2. Amino acid catabolism Amino acid catabolism Amino acid catabolism Nucleotide Metabolism Nucleotide synthesis: De-Novo 5. Salvage PW 01 02 03 04 05 06-08-18 06 06-08-18 07 06-08-18 09 01 04 05 06-08-18 07 06-08-18 07 07 08 09 09 09 09 09 00 00 00 00

Sr. No.	Subject	Practicals	Date	No. of Practicals
1	Metabolism	Hydrolysis of Sucrose and Starch		04
2		Qualitative Test for Amino Acids	-	04
3		Qualitative Test for Proteins		04
4		To Perform Fatty acid Titration		04
5		Estimation of Ketone Bodies	2/07/18	04
6		Determination of Urinary Titrable acidity	То	04
7		Estimation of Urinary Creatinine	3/10/18	04
8	e ag	Estimation of Enzyme activity of Acid Phosphatase		04
9		Estimation of Enzyme activity of β-amylase	1.0	04
10		Estimation of Total Serum Cholesterol by Zak and	Batch A, B,C,D	04
		Henley's method	*	
11		Determination of Serum Bilirubin by Van de Bergh		04
		reaction		
12		Solution of Problems in Biochemistry and Metabolism		04

Date: 20 June, 2018

Course Teacher

HoD Head Department of Biotechonlogy Rajarshi Shahu Mahavidyalaya (Autonomous) Latur-413 531

PILINCZPEL Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)



Shiv Chhatrapati Shikshan Sanstha's Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

Department of Biotechnology Structured Work Plan for Teaching

Academic Year 2018-19 (Term-I)

Sr. No.	Class	Name of Asstt. Prof.	Subject	Paper
1	M.Sc. II	Manisha A. Dhotre	Biotechnology	Course Title: Microbial Biotechnology Course Code: P-MIB-335 Course Title: Lab Course X Course Code: P-LAC-339

Name of Teacher: Manisha A. Dhotre

Class

: M.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 / Assignm ent with topic and date
1	Microbial Biotechnology	Unit1 Microbial Production of Organic Acids: Production, recovery and		04	INDUSTRIAL VISIT	Unit – I 07/08/1 8
		applications of: 1. Citric acid	22-06-18		Classroom	Unit – II
		2. Lactic acid Microbial Production of Organic Solvents: Production, recovery and applications of: 1. Alcohol 2. Glycerol 3. Acetone Microbial Production of	To 11-07-18	04	Group Discussion	4/10/18
		Vitamins: Production, recovery and applications of vitamins: 1. Vitamin-B12 2. Riboflavin		04		
		Unit II Microbial Production of Amino Acids: Production, recovery and applications of amino acids: 1.L-Glutamic acid 2.L-Lysine	13-07-18 To 31-07-18	04		

	3.L- Tryptophan	T .			T	-
	Production of insulin and erythropoietin		02			
	Biogas production from biomass: Methane		02	18.1		
	Bioleaching: Mechanism of Bioleaching with example. Biosorption Microbial recovery of petroleum		03			
	Unit III				-	-
	Production of Chemotherapeutic	Mr. Herman	04			
	Agents :Production, recovery and	i.				-
	applications of antibiotics:	-				
a lasa	1. Penicillin	02-08-18		and West all a		
	2. Tetracycline	То		- Containing		
100	3. Erythromycin	30-08-18			118	
nordinali pieve pasi side t	Production of microbial polysaccharides: Production,		04			
1 - 18 9 1	recovery and applications of		i	7		
Wealth	polysaccharides:	Je terresaly	eri kendura	Mg guess w	-4	
	1.Xanthan 2.Dextran	-1	y tantami	eric .		
		Let See See See See See See See See See S	endra d			
	3.Alginate		hipal j			
	Production of	No mobblests	ell fallan	AND TO		
	Polyhydroxyalkanoates:		03			
	1. Polyhydroxybutyrate (PHB)		dada a			
	2. Biopol-a biodegradable plastic	90 1 21 B				
	Unit IV					
	 Enzyme Technology: Immobilization of enzymes and cells. Production and applications of: Proteases, Pectinases, Cellulase, amylase. 	03-09-18 To 22-09-18	06			
	Diotuonofoumation		06			1
	Biotransformation: 1. Types of bioconversion reactions: Oxidation, Reduction, Hydrolytic					
DEE ARE	reactions, Condensations					

2. Transformation of steroids	1 34			
and sterols				
3. Transformation of				
nonsteroid compounds: L-	-		-	
Ascorbic acid,				
Prostaglandins, Antibiotics.		-		

Sr. No.	Subject	Practicals	Date	No. of Practicals
1	Microbial	Fermentative production of amylase by Bacillussubtilis.		02
2	Biotechnology	Fermentative production of alpha amylase from fungi Aspergillusniger		02
3		Production of Sauerkraut by microorganism		02
4		Ethanol fuel production from Tissue Paper Waste or Molasses.		02
5		Estimation of Alcohol by specific gravity method	01/07/18	02
6		Estimation of Alcohol by Idometry test	to	02
7		I] Isolation and identification of lipase producer. II] Production and estimation of lipase producing organism.	3/10/18	02
8		Production of alkaline protease from Bacillus species.	Batch A and	02
9		I] Isolation and screening of Lactic acid producing bacteria II] Production and estimation of Lactic acid.	В	02
10		Isolation and Characterization of microorganisms used as Biofertilizer		04
11		Production of Extracellular Polysaccharide from <i>Rhizobium</i> Species isolated from leguminous Plant (<i>Glycine max</i>)		04
12		Production of fermented milk by Lactobacillus.		04

Date: 20 June, 2018

Course Teacher

Department of Biotechonio Rajarshi Shahu Mahavidyalay (Autonomous) Latur-413 531

PRINCEPAL Rajarshi Shahu Mahavidyalaya,Latur (Autonomous)



Shiv Chhatrapati Shikshan Sanstha's

Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

Department of Biotechnology Structured Work Plan for Teaching Academic Year 2018-19 (Term-II)

Sr. No.	Class	Name of Asst. Prof.	Subject	Paper
1	B.Sc.II	Manisha A. Dhotre	Biotechnology	Course Title: Enzymology Course Code: U-ENZ-498 Course Title: Lab Course XV Course Code: U-LAC-502

1. Summary of Lesson Plan

Name of Teacher: Manisha A. Dhotre

: B.Sc. BT. 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	Metabolism	Unit I ENZYMES & ENZYME CATALYSIS: 1.General Features of enzymes 2.Characteristics of enzymes 3.Classification - IUB system, rationale, overview and specific	03-12-18 04-12-18 05-12-18 07-12-18	01	Tutorials	Unit – I 20/01/19 Unit – II 22/03/19 Assignment 24/12/18
		examples, 4.Enzyme substrate complex, Concept of active centre, binding sites	10-12-18	02	Classroom Seminar	
		5. Types of Specificity6. Effect of different factors on reaction rate7. Factors affecting catalytic	11-12-18 12-12-18 14-12-18	01 01		
		efficiency - proximity and orientation effects, distortion or strain, acid - base and nucleophilic catalysis 8.Methods for studying fast reactions 9. Chemical modification of enzymes	17-12-18 18-12-18 19-12-18	02		

enzymes. 11.Examples of Enzymatic Reactions: Lysozyme and Chymotrypsin, Zymogen, Ribozyme. Unit II. APPLICATION AND CHARACTERISATION OF ENZYMES 1.Commercial application of enzymes in food pharmaceutical and other industries 2. Commercial application of Enzymes for analytical and diagnostic applications 3.Production and Purification of Crude Enzyme extracts from plant, animal and microbial sources-some case studies 4.Methods of characterization of enzyme 5development of enzymatic assays. Unit III ENZYME KINETICS:	21-12-18 24-12-18 26-12-18 28-12-18 31-12-18 01-01-19 04-01-19 07-01-19 08-01-19 09-01-19	01 02 02 03 01 02
Reactions: Lysozyme and Chymotrypsin, Zymogen, Ribozyme. Unit II. APPLICATION AND CHARACTERISATION OF ENZYMES 1. Commercial application of enzymes in food pharmaceutical and other industries 2. Commercial application of Enzymes for analytical and diagnostic applications 3. Production and Purification of Crude Enzyme extracts from plant, animal and microbial sources-some case studies 4. Methods of characterization of enzyme 5. development of enzymatic assays.	28-12-18 28-12-18 31-12-18 01-01-19 2-01-19 04-01-19 07-01-19 08-01-19	02 02 02 03 01
Unit II. APPLICATION AND CHARACTERISATION OF ENZYMES 1. Commercial application of enzymes in food pharmaceutical and other industries 2. Commercial application of Enzymes for analytical and diagnostic applications 3. Production and Purification of Crude Enzyme extracts from plant, animal and microbial sources-some case studies 4. Methods of characterization of enzyme 5 development of enzymatic assays.	28-12-18 28-12-18 31-12-18 01-01-19 2-01-19 04-01-19 07-01-19 08-01-19	02 02 03 01
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other industries 2. Commercial application of Enzymes for analytical and diagnostic applications 3. Production and Purification of Crude Enzyme extracts from plant, animal and microbial sources-some case studies 4. Methods of characterization of enzyme 5 development of enzymatic assays.	31-12-18 01-01-19 2-01-19 04-01-19 07-01-19 08-01-19	02 03 01
 Commercial application of Enzymes for analytical and diagnostic applications Production and Purification of Crude Enzyme extracts from plant, animal and microbial sources-some case studies Methods of characterization of enzyme development of enzymatic assays. 	01-01-19 2-01-19 04-01-19 07-01-19 08-01-19	03
Enzymes for analytical and diagnostic applications 3. Production and Purification of Crude Enzyme extracts from plant, animal and microbial sources-some case studies 4. Methods of characterization of enzyme 5 development of enzymatic assays.	2-01-19 04-01-19 07-01-19 08-01-19	03
Crude Enzyme extracts from plant, animal and microbial sources-some case studies 4.Methods of characterization of enzyme 5development of enzymatic assays.	04-01-19 07-01-19 08-01-19	01
Crude Enzyme extracts from plant, animal and microbial sources-some case studies 4.Methods of characterization of enzyme 5development of enzymatic assays.	07-01-19 08-01-19	01
4.Methods of characterization of enzyme 5development of enzymatic assays.	08-01-19	338 VYV3
5development of enzymatic assays.	S AS 1554000 STAME	02
deligned 10 81-51-60	09-01-19	amma l kabasa 1 kamma
Unit III ENZYME KINETICS:		
	na to	6.00+1\2000 (801 /.b)
1.Michaelis - Menten Equation -	11-01-19	02
form and derivation, steady state	14-01-19	Proper College College
enzyme kinetics	16-01-19	200000
	18-01-19	01
2. Significance of Vmax and Km,	10-01-19	
3.Bisubstrate reactions	04.04.40	01
 4.Graphical procedures in	21-01-19	and the second second
enzymology - advantages and	22-01-19	02
disadvantages of alternate plotting		0 to 32 72 0
5. Enzyme inhibition - types of	23-01-19	SAT SUP TO SEE
inhibitors - competitive, non-	25-01-19	
competitive and uncompetitive, their	28-01-19	03
mode of action and experimental		
determination.	29-01-19	01
	Tall Wester.	

	6.Enzyme activity, international units, specific activity, turnover number 7. end point kinetic assay	30-01-19	01	
	Unit IV ENZYME REGULATION & IMMOBILIZED ENZYMES 1.Product inhibition, feedback control 2.enzyme induction and repression and covalent modification,	04-02-19 05-02-19 06-02-19	01	
	Allosteric regulation 3. Relative practical and economic advantage for industrial use, effect of partition on kinetics and performance with particular emphasis on charge and hydrophobicity (pH, temperature and Km)	08-02-19 11-02-19 12-02-19	02	
	4. Various methods of immobilization - ionic bonding, adsorption, covalent bonding (based on R groups of amino acids), microencapsulation and gel entrapment. Immobilized multienzyme systems 5. Riosensors and glucose oxidese	13-02-19 15-02-19 18-02-19 20-02-19	04	and an an and
HILL TO LEGG	5.Biosensors - glucose oxidase, cholesterol oxidase, urease and antibodies as biosensors.	22-02-19 25-02-19 26-02-19 27-02-19	04	

Sr. No.	Subject	Practicals Amount results	Date	No. of Practicals
1	Enzymology	To study effect of α amylase activity on starch		04
2		Determination of α amylase activity		04
3		To study effect of pH on α amylase activity	1.0	04
4	-	To study effect of Substrate on α amylase activity	1.500	04
5		To study effect of Salt on α amylase activity	12/12/18	04
6		To study effect of Temperature α amylase activity	То	04
7		To study effect of Time on α amylase activity	20/03/19	04
8	1	A] Immobilization of Yeast cells by Calcium- Alginate Entrapment method	or remarking testions	04
		B] Determination of viability of immobilized Cells by invertase activity	Batch A,B,C,D	
9		Hydrolysis of sucrose by yeast β-	rusgso inghalid	04
	1	Fructofuranosidase	ment ver elektrist.	
10	i 	Determination of Hydrolyzed Sucrose solution by Benedict Method	ment types the	04
11		Indirect Estimation of Lactate Dehydrogenase	resources the	04
12		A] Purification of HRP by Affinity Chromatography B] Estimation of HRP activity	and odgestived Loss	04
13	A TO SERVICE OF SERVICE	Problems Based on MM equation and Lineweaver-Burk plot	4.Varana a etho	04

Date: 01 Dec. 2018

Course Teacher

HoD Head Department of Biotechonlog Rajarshi Shahu Mahavidyala (Autonomous) Latur-413 5

PRINCIPAL Rajarshi Shahu Mahavidyalaya, Latun (Autonomous)



Shiv Chhatrapati Shikshan Sanstha's Rajarshi Shahu Mahavidyalaya, Latur (Autonomous)

Department of Biotechnology Structured Work Plan for Teaching Academic Year 2018-19 (Term-II)

Sr. No.	Class	Name of Asstt. Prof.	Subject	Paper
1	M.Sc. II	Manisha A. Dhotre	Biotechnology	Course Title: Food and Nano Biotechnology Course Code:P-FNB-434 Course Title: Lab Course XIV Course Code: P-LAC-437

Name of Teacher: Manisha A. Dhotre

Semester)

Class

: M.Sc. BT. II (Fourth

Sr. No.	Subject	Unit and Chapter to be covered	Date	No. of Lectur es	Academic activities to be organized	No. of Test / Assignm ent with topic and date
1	Food and Nano Biotechnolo	Unit-I: Biotechnology for Food Ingredients		himan Panis	INDUSTRIAL VISIT	Unit – I 04/01/2 0
	gy	Metabolic engineering of bacteria for food	28-11-18 03-12-18	02	Classroom	Unit - II
		 ingredients Biotechnology of microbial polysaccharides in food Microbial biotechnology for food flavor production 	04-12-18 05-12-18	02	SEMINAR	18/02/2 0 Unit -III 27/03/2 0
		 Aspects of Food Production. Food safety: HACCP System to food protection, Responsibility for food 	06-12-18	02		
		safety.	10-12-18	01		

Food Additives: Definition		
Types and Functional	And we star	01
• Natural Colors: Types,		01
	13-12-18	
7.21(11.11	100.00	
Section 1 de la company de la		02
 Food Preservation Methods 	18	sould be a second
Unit-II:		
Fermented Food Products		
• Fermentation technology		
for traditional food of the	20-12-	02
Indian subcontinent	18	
• Solid state fermentations	24-12-18	01
for food applications	26-12-18	
• Genetic engineering of		02
bakers yeast Biotechnology	27-12-18	
of wine yeast	31-12-18	West and
Biotechnology of beta	100 Mg	02
carotene from Dunaliella	01-01-19	Second Second Second
• SCP: Spirulina and	02-01-19	02
Chlorella	03-01-19	
	07-01-19	
	08-01-19	
Unit-III:		
Molecular evolution and	09-01-	02
diversity of food borne	19	
pathogens	10-01-19	1 100000
Application of microbial	DEAH 17500	02
molecular techniques for	14-01-19	
food systems	16-01-19	
Application of ELISA assays		was a selection of the selection
	Types and Functional characteristics. Natural Colors: Types, Applications Sweeteners: Types and Applications. Causes of food spoilage Food Preservation Methods Unit-II: Fermented Food Products Fermentation technology for traditional food of the Indian subcontinent Solid state fermentations for food applications Genetic engineering of bakers yeast Biotechnology of wine yeast Biotechnology of beta carotene from Dunaliella SCP: Spirulina and Chlorella Unit-III: Molecular evolution and diversity of food borne pathogens Application of microbial molecular techniques for food systems	Types and Functional characteristics. Natural Colors: Types, Applications Sweeteners: Types and Applications. Causes of food spoilage Food Preservation Methods Unit-II: Fermented Food Products Fermentation technology for traditional food of the Indian subcontinent Solid state fermentations for food applications Genetic engineering of bakers yeast Biotechnology of wine yeast Biotechnology of beta carotene from Dunaliella SCP: Spirulina and Chlorella Chlorella O3-01-19 Chlorella O3-01-19 Unit-III: Molecular evolution and diversity of food borne pathogens Application of microbial molecular techniques for food-systems 11-12-18 17-12-18 17-12-18 20-12-18 20-12-18 21-12-18

	9				
		quantitation of toxins in	23-01-19	PACE STATE OF THE	A
13		foods and <i>E.coli</i> in food	· ·		
		 Biosensors for food quality 	mark as	minute refer to the first	
		assessment	figer req	02	4
		Biotechnological	24-01-19	performabili personassascii	
		approaches to improve	action 15 at	02	w.
S		nutritional quality and	28-01-19	a templadi d	
		shelf life of fruits and	29-01-19	eprethaud)	
	NA SIAME	vegetables		Many (202)	
	118	Biotransformation	ministra de la	02	
-1	22.001.20	applicable to food	30-01-19	or control of	
		industries		02	1
		• Functional foods: Concept	31-01-	a material	
	America	of Prebiotics, Probiotics	19	a personal de	
	1 have	and Neutraceuticals	04-02-19	o to pool it	
		Unit IV		APPACAMENT	
	4	NanoBiotechnology	05-02-19	lig to IsO B	H B
		 The nanoscale dimension and paradigm. 	06-02-19	02	
		Types of nanomaterials and their classifications, D. 2D.	07 02 40	00	
		their classifications. D, 2D and 3D etc.	07-02-19	02	
		 Nanocrystal, Nanoparticle, 	11-02-19		
		Quantum dot, Quantum	12-02-19	03	3
- 1		Wire and Quantum Well etc. Polymer, Carbon,	13-02-19	4 (uz - w)	Acres 6
		Inorganic, Organic and	14-02-19		-
-		Biomaterials -Structures	18-02-19		2-
	. 0	and characteristics.	20-02-19	03	mark.
	1	 Physical and Chemical Fundamentals 	21-02-19	700.00	Trestan
		Nanomaterial. Green	25-02-19		
	(30)	Synthesis of Nanoparticles	26-02-19		
		using bacteria and plants. • Characterization of	27-02-19	02	

Sr. No.	Subject	Practicals	Date	No. of Practic als
1	Food and	Determination of quality of milk sample by methylene		02
	Nano	blue reduction test		
2	Biotechnolog	Determination of physiological properties of milk		02
3	у	Determination of calcium and phosphorous in milk		02
4		Efficiency of pasteurization of milk by phosphates test		02
5	7	Quantitative analysis of milk by standard plate count (02
		SPC) method	10/12/18	
6		Estimation of Ascorbic Acid	to	02
7		Isolation and characterization of food fermenting micro-	05/03/19	02
		organisms from idli batter		
8	1	Isolation of probiotics micro-organisms from various		02
		sources	Batch A	1
9		Effect of temperature on growth of probiotics micro-	and B	02
	-	organisms		
10		Effect of pH on growth of probiotics micro-organisms		02
11		Effect of salt concentration on growth of probiotics micro-		02
		organisms	160	
12		Estimation of lactic acid		02
13		Production of nanoparticles		02
		Wasserphink Rerespondents a state of the		

Date: 27 Nov. 2018

Course Teacher

Head

Department of Biotecheniogy
Rajarshi Shahu Mahavidya ay

(Autonomous) Latur-413 531

Principal PRINCIPAL Rajarshi Shahu Mahavidyalaya, Latun (Autonomous)