Dr. Umayal Ramanathan College for Women

Accredited with B+ Grade by NAAC

Affiliated to Alagappa University

(Run by Dr. Alagappa Educational Trust)

Karaikudi – 630 003

Faculty Work Planner & Work Diary
Academic Year 2020 - 21
Even Semester

Name of the Faculty: Mrs.J.Jeba Mercy

Department: Biotechnology

Part I – Time Table & Subject List

Time Table

Day Order	9:00-9:30 am	1	2	3	LUNCH BREAK	4	5
I	I -PE	III					III
II	I -PE	III		II LAB			II LAB
III	I -PE						
IV	I -PE	III					
V	I -PE	II LAB					
VI	I -PE	III		II- yoga		II LAB	

Allocated Subjects

S. No.	Class	Subject	Subject Code	No. of Hours
1.	I	Professional English	7PE2BL	6
2.	II	Lab In Genetics	7BBT4P1	4
3.	II	Manavalakalai Yoga	7BMY4	1
4.	III	Plant Animal Biotechnology	7BBT6C2	5

Signature of the Faculty member

Signature of the HOD

Work Plan

Class: III B.Sc Biotechnology
Semester: VI

Subject Name:Plant and Animal Biotechnology
Subject Code:7BBT6C2

S. No.	UNIT	Content	Hours Needed	Hours Taken	Signature of the Student Representative
1.	I	Plant tissue culture: Types of cultures – Callus, Cell suspension, Micropropagation, and Anther culture.Plant regeneration: Somatic embryogenesis and organogenesis. Different types of culture media (MS & LS). Microsporangium &Megaporanngium development in plants	15	14	
2.	II	Culture media: serum media & serum free media – biology of cultured cells – cell growth kinetics – primary culture– subculture.	12	10	
3.	III	Gene transfer techniques in plants: Methods of transformation – Direct (microinjection and microlaser&Biolistics) and Indirect – selectable markers, reporter genes and promoters used in plant expression vectors. Types of Ti-plasmid vectors	15	13	
4.	IV	Spermatogenesis & Oogenesis in mammals. Gene transfer techniques in animals – Transfection – liposuction – electroporation, microinjection.	15	14	
5.	V	Organogeny: Development of brain, eye, and ear in frog. Placentation in mammals	15	17	

Signature of the Faculty

Signature of the HOD

Work Diary

Class:III B.Sc Biotechnology **Subject Name:** Plant & Animal Biotechnology
Semester:VI **Subject Code: 7BBT6C2**

Date	Hr	Unit & Topic	Objective	Contents	Aids Used	Outcome
21/12/2020 (D1)	1,5	Unit –I Plant tissue culture	To obtain the basic knowledge in plant tissue culture and Plant regeneration methods. To Understand the development mechanism of Microsporangium & Mega sporangium in plants	Introduction to tissue culture	https://www.youtube.com/watch?v=xuwV3ywCxW8	Obtain the basic knowledge in plant tissue culture and Plant regeneration methods. Understand the development mechanism of Microsporangium & Mega sporangium in plants
22/12/2020 (D2)	1			Types of cultures	Power Point presentation & interaction.	
24/12/2020 (D4)	1			Callus culture		
26/12/2020 (D6)	1			Anther culture		
28/12/2020 (D1)	1,5			Cell suspension culture		
29/12/2020 (D2)	1			Micropropagation culture	Used modules from net sources	
31/12/2020 (D4)	1			Somatic Embryogenesis	Power Point presentation with mind map.	
02/01/2021 (D6)	1			Different types of culture media	Small-group discussion, Illustration and interaction	
04/01/2021 (D1)	1,5			Plant regeneration	Assessment	
05/01/2021 (D2)	1			Microsporangium	Video method of interaction.	

07/01/2021 (D4)	1			Megaporangium		
09/01/2021 (D6)	1	Unit –II Culture media	To learn the types of Culture media used in plant tissue culture. To understand cell culture, cell growth kinetics, primary culture, & subculture.	Introduction to Culture media	Small-group discussion, Illustration and interaction	Recognized the types of Culture media, and cell growth kinetics.
11/01/2021 (D1)	1,5			serum media		
12/01/2021 (D2)	1			serum free media		
18/01/2021 (D1)	1,5			cell growth kinetics		
19/01/2021 (D2)	1			biology of cultured cells	Power Point presentation & interaction with mind map.	
21/01/2021 (D4)	1			primary culture & subculture		
23/01/2021 (D6)	1			Culture media	Assessment	
25/01/2021 (D1)	1,5	Unit –III Gene transfer techniques in plants	To know, gene transfer techniques in plants. To learn, the various methods of transformation. To understand the plant expression vectors.	Introduction to Gene transfer techniques in plants	Animation- https://www.youtube.com/watch?v=dX3imX7qBlw	Understand direct, indirect Gene transfer techniques in plants and Types of Ti-plasmid vectors.
30/01/2021 (D6)	1			Methods of transformation	Power point presentation & interaction with mind map.	
01/02/2021 (D1)	1,5			Introduction to direct & indirect		
02/02/2021 (D2)	1			Direct - microinjection	Used modules from net sources	
04/02/2021 (D4)	1			Microlaser & Biolistics	Used modules from net sources	

06/02/2021 (D6)	1			Gene transfer techniques in plants	Assessment	
08/02/2021 (D1)	1,5			Indirect- selectable markers	Power Point presentation & interaction.	
09/02/2021 (D2)	1			reporter genes and promoters		
11/02/2021 (D4)	1			Types of Ti-plasmid vectors	https://www.youtube.com/watch?v=yesNHd9h8k0	
13/02/2021 (D6)	1	Unit -IV Spermatogenesis & Oogenesis in mammals.	To understand the basics of Spermatogenesis & Oogenesis in mammals	Introduction to Spermatogenesis and its mechanism in mammals	Used modules from net sources	Achieve basic mechanism of Spermatogenesis & Oogenesis in mammals. Understand Gene transfer techniques in animals.
15/02/2021 (D1)	1,5		I-INTERNAL	-	-	
16/02/2021 (D2)	1		To understand - Spermatogenesis & Oogenesis in mammals. To learn- Gene transfer techniques in animals.	Introduction to Spermatogenesis in mammals	Power Point presentation & interaction.	
18/02/2021 (D4)	1			Spermatogenesis mechanism in mammals.		
20/02/2021 (D6)	1			Spermatogenesis and its mechanism in mammals	Assessment	
22/02/2021 (D1)	1,5			Oogenesis - mechanism in mammals	Used modules from net sources	
23/02/2021 (D2)	1			Introduction to Gene transfer techniques.	https://www.youtube.com/watch?v=EyXEMVUMYoI	

25/02/2021 (D4)	1			Transfection		
27/02/2021 (D6)	1			Transfection	Assessment	
01/03/2021 (D1)	1,5			electroporation	Power point presentation.	
02/03/2021 (D2)	1			Gene transfer techniques	Assessment	
04/03/2021 (D4)	1			microinjection	Power point presentation.	
06/03/2021 (D6)	1	Unit -V Organogeny		Introduction to Organogeny.	Small-group discussion, Illustration and interaction	Understand the structure, location, development, and function brain, eye, and ear in frog.
08/03/2021 (D1)	1,5		II-INTERNAL	-	-	
09/03/2021 (D2)	1		To understand the development of various organs in frog, and placentation in mammals.	Development of brain in frog	Power Point presentation & interaction.	
11/03/2021 (D4)	1			Development of brain in frog - continuation.		
13/03/2021 (D6)	1			Development of brain in frog	Assessment	
15/03/2021 (D1)	1,5			Development of eye in frog.	Used modules from net sources	
16/03/2021 (D2)	1			Development of ear in frog		
18/03/2021 (D4)	1			Development of ear in frog - continuation.		

20/03/2021 (D6)	1			Seminar – Unit 1	Group Discussion, seminar and Interaction	
22/03/2021 (D1)	1,5			Placentation in mammals	Power Point presentation and discussion.	
23/03/2021 (D2)	1			Placentation in mammals- continuation.		
25/03/2021 (D4)	1			Seminar – Unit 1I	Group Discussion, seminar, mind map and Interaction	
27/03/2021 (D6)	1			Seminar – Unit 1II		
29/03/2021 (D1)	1,5			Seminar – Unit 1V		
30/03/2021 (D2)	1			Seminar – Unit V		

Work Plan

Class: II Biotechnology
Semester: IV

Subject Name: Lab in Genetics
Subject Code: 7BBT4P1

S. No.	UNIT	Content	Hours Needed	Hours Taken	Signature of the Student Representative
1.	I	Problem sets in Mendelian inheritance a) single point crosses & b) two point crosses.	20	18	M. Vayathri
2.	II	Mitosis in onion root	3	1	S. Bivuntha
3.	III	Meiosis in flower buds of *Hibiscus Rosasinensis*	3	1	L. vigneshwari
4.	IV	Life cycle of Drosophila melanogaster	3	1	
5.	V	Culture techniques and handling of flies	3	1	R. Rohith
6.	VI	Polygenic inheritance with reference to Finger Print	3	1	K. Kiruthiga
7.	VII	Determination of Phenomenon of segregation – Artificial – Probability	3	1	H. Sumith
8.	VIII	Determination of independent assortment – Artificial – Probability	3	1	M. Sowmya
9.	IX	Antibiotic sensitivity test in bacteria	3	1	N. M. Fazil
10.	X	Barr body identification in cells of buccal smear	3	1	A. Vadivel

Signature of the Faculty member

Signature of the HOD

Work Diary

Class:II B.Sc Biotechnology **Subject Name:** Lab in Genetics
Semester:IV **Subject Code:** 7BBT4P1

Date	Hr	Unit & Topic	Objective	Contents	Aids Used	Outcome
22/12/2020 (D2)	3,5	Problem sets in Mendelian inheritance a) Single point crosses & b) two point crosses.	To perform -Problem sets in Mendelian inheritance a) Single point crosses & b) two point crosses.		Chalk & talk	Learn to solve Problem sets in Mendelian inheritance a) Single point crosses & b) two point crosses.
26/12/2020 (D6)	4					
29/12/2020 (D2)	3,5					
02/01/2021 (D6)	4					
05/01/2021 (D2)	3,5	Microscope Incubator	To identify and learn working of Microscope & Incubator	Identification of Parts, construction, Working, advantage, & disadvantage.	Seminar	Understand the working condition of Microscope & Incubator
08/01/2021 (D5)	1	Autoclave	To learn the functioning of Autoclave			learned the functions of Autoclave
09/01/2021 (D6)	4	Hot air oven	To identify the parts and operational conditions of Hot air oven			Identified the parts and operational conditions of Hot air oven

12/01/2021 (D2)	3,5	Mitosis in onion root	To perform Mitosis in onion root	Various stages	Hands on training	Perform the Mitosis in onion root tip experiment
19/01/2021 (D2)	3,5					
22/01/2021 (D5)	1	Shaker	To learn the functions of Shaker	Identification of Parts, construction, Working, advantage, & disadvantage.	Video method of interaction	Learned the functions of Shaker
23/01/2021 (D6)	4	Colony counter	To identify & working of Colony counter			To identify & working of Colony counter
29/01/2021 (D5)	1	Male Drosophila	To identify -Male Drosophila	Difference between male and female drosophila	Performed in lab	To identify -Male Drosophila
30/01/2021 (D6)	4	Female Drosophila	To identify - Female Drosophila			To identify - Female Drosophila
02/02/2021 (D2)	3,5	Meiosis in flower buds of Hibiscus Rosa sinensis	To perform Meiosis in flower buds of Hibiscus Rosa sinensis & identify various stages.	Various stages	Performed in lab	To perform Meiosis in flower buds of Hibiscus Rosa sinensis & identify various stages.
05/02/2021 (D5)	1					
06/02/2021 (D6)	4					
09/02/2021 (D2)	3,5	Life cycle of Drosophila melanogaster	To understand the Life cycle of Drosophila melanogaster	Culturing and identification of male & female Drosophila, media preparation, and identification of		To understand the Life cycle of Drosophila melanogaster
12/02/2021 (D5)	1					
13/02/2021 (D6)	4					

16/02/2021 (D2)	3,5	Culture techniques and handling of flies	To perform Culturing techniques and handling of flies	mutant drosophila.	Link	To perform Culturing techniques and handling of flies
19/02/2021 (D5)	1					
20/02/2021 (D6)	4	Sex comb in Male Drosophila	To know and identify the Sex comb in Male Drosophila	Details about male Sex comb of Male Drosophila	https://www.youtube.com/watch?v=ew3MHM5OG60 Hands on training	To know and identify the Sex comb in Male Drosophila
23/02/2021 (D2)	3,5	Polygenic inheritance with reference to Finger Print	To achieve Polygenic inheritance with reference to Finger Print	Expression of polygenic traits	Hands on training	To achieve Polygenic inheritance with reference to Finger Print
26/02/2021 (D5)	1					
27/02/2021 (D6)	4	*Escherichia coli*	To identify and learn about *Escherichia coli*	Morphology, identification, & gram positive & negative differentiation.	Online - group discussion	To identify and learn about *Escherichia coli*
02/03/2021 (D2)	3,5	Determination of Phenomenon of segregation – Artificial – Probability	To Determine the Phenomenon of segregation – Artificial – Probability	Performed with beads	https://www.youtube.com/watch?v=VjmQewAjPok	To Determine the Phenomenon of segregation – Artificial – Probability
05/03/2021 (D5)	1					
06/03/2021 (D6)	4	Polytene chromosome	To understand about Polytene chromosome	Interphase chromosome in salivary glands	Video method of interaction	To understand about Polytene chromosome

09/03/2021 (D2)	3,5	Determination of independent assortment – Artificial – Probability	To Determine independent assortment – Artificial – Probability	Performed with beads	https://www.youtube.com/watch?v=VjmQewAjPok	To Determine independent assortment – Artificial – Probability
12/03/2021 (D5)	1					
13/03/2021 (D6)	4	Criss cross inheritance	To learn about Criss cross inheritance	The transmission of a gene from mother to son or father to daughter.	Small-group discussion, Illustration and interaction	To learn about Criss cross inheritance
16/03/2021 (D2)	3,5	Antibiotic sensitivity test in bacteria	To perform-Antibiotic sensitivity test in bacteria	Antibiotic sensitivity and resistance among given bacteria	https://www.youtube.com/watch?v=Np87w5kCL-4	To perform-Antibiotic sensitivity test in bacteria
19/03/2021 (D5)	1					
20/03/2021 (D6)	4	Barr body identification in cells of buccal smear	To identify Barr body in cells of buccal smear	Genetic testing & female identification	https://www.youtube.com/watch?v=hLt884HV8bE	To identify Barr body in cells of buccal smear
23/03/2021 (D2)	3,5					
26/03/2021 (D5)	1	Mitosis stages	To learn-Mitosis stages	Prophase, prometaphase, metaphase, anaphase, and telophase.	Seminar and assignment.	To perform-Mitosis stages
27/03/2021 (D6)	4					
30/03/2021 (D2)	3,5	Meiosis stages	To learn-Meiosis stages	Meiosis I & Meiosis II		To perform-Meiosis stages

Signature of the Faculty member

Signature of the HOD