

M.Sc., Applied Microbiology

Program Outcomes:

S.No	OUTCOMES
PO1	The course will help them to impart the knowledge of the basic principles of microbiology ,bacteriology, mycology, immunology, virology and algal technology including the nature of pathogenic microorganisms, pathogenesis, laboratory diagnosis, transmission, prevention and control of diseases common in the country.
PO2	Students will demonstrate competency in laboratory safety and in routine and specialized microbiological laboratory skills applicable to microbiological research or clinical methods, including accurately reporting observations and analysis. Students will demonstrate engagement in the Microbiology discipline through involvement in research or internship activities.
PO3	Student the relationship between the science and society.
PO4	This program outcomes will help the students to learn the theoretical and practical view of the syllabus. It will help them to understand the courses fundamentally and its outcomes to develop their subject skills
PO5	Communicate and collaborate with other disciplines by effectively communicating the fundamental concepts of Microbiology in written and oral format. Identify credible scientific sources to interpret and evaluate the evidences.
PO6	Apply ethical principles, commit to professional ethics and responsibilities and norms of the scientific practice.
PO7	Critically and analytically evaluate and interpret research based data to provide valid conclusions and solutions.
PO8	Foster learning through accumulation of knowledge in Science.
PO9	Engage in life-long learning in the broadest context of scientific advancement.
PO10	monstrate leadership qualities by working collaboratively in a team, to set goals, communicate scientific information to stakeholders, comprehend and write reports, develop documentation, make presentation and to give and receive clear instructions.

Program specific Outcomes:

S.No	OUTCOMES
PSO1	general course emphasizing distribution, morphology and physiology of microorganisms in addition to skills in aseptic procedures, isolation and identification of microorganism from plant, animal, food, water, soil and human.
PSO2	successful completion of graduation for UG and PG students will gain insight of Microbiology starting from history, basic laboratory techniques and fundamental knowledge about the microorganisms.
PSO3	e skill enhancement elective course such as algal technology, mushroom cultivation and herbal technology to develop their .
PSO4	ey will be well-informative about the integral role of microorganisms associated with specific disease, vital role of microorganisms in biotechnology, fermentation, medicine, and other industries important uman well being.
PSO5	will acquire the skill in the use and care of basic microbiological equipment; performance of basic laboratory procedures in microbiology; proper collection and forwarding of microbiological.
PSO6	Plan and design systematic research activities in the field of Microbiology and allied sciences including necessary skills for collecting, processing and interpreting data and drawing logical inferences
PSO7	Apply basic concepts/ theories of Life Sciences for solving current scientific and social issues in key fields such as agriculture, environment, human health, transgenic animals, GMOs and plant disease management
PSO8	Analyse the relationships among microbes and plants/ animals/ humans
PSO9	Communicate and analyze the core concepts and theories in Microbiology and allied sciences
PSO10	derstand the applications of Microbiological sciences in Agriculture, Medicine, Environment etc.

SEMESTER-I
PAPER- 1
GENERAL MICROBIOLOGY AND MICROBIAL PHYSIOLOGY

SUBJECT CODE: DAM11
NO.OF.HOURS/ WEEK:5

CREDITS:4
TOTAL HOURS:65

Course Outcomes

Semester	Course Name	Course Credit	Course Outcomes
I Regulation (2020-2021) Semester-I	General Microbiology and Microbial Physiology	4	CO1-Students will learn the modern trends in microbial classification and its description
			CO2- Students will able to understand the working principles of microscope and their applications..
			CO3- Students will learn the stages of studying bacterial growth curve
			CO4- Students will able to demonstrate and understanding of bacterial , fungal , cyanobacterial, viral diseases, culturing, reproduction and significance
			CO5- Students will learn basic concepts of metabolism
			6- The Students will able to understand the structure and function of viruses.

COS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	M	M	S	M	S	M	M	S
CO2	S	S	S	M	S	M	S	L	M	M
CO3	S	M	S	M	S	M	S	M	M	S
CO4	S	S	M	M	S	M	S	S	M	M
CO5	S	M	S	M	S	L	S	M	L	M

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

**IMMUNOLOGY AND IMMUNO TECHNOLOGY
PAPER - 2**

SUBJECT CODE: DAM12

**CREDITS: 4
TOTAL HOURS:65**

NO.OF.HOURS/ WEEK: 5

Semester	Course Name	Course Credit	Course Outcomes
I Regulation (2020- 2021)	immunology and immuno technology	04	CO1- Students will able to Impart knowledge about the underlying concepts of molecular and cellular mechanisms involved in the development and regulation of the immune response.
			CO2 cellular mechanisms involved in the development and regulation of the immune response.
			CO3- Students will able to Importance of studying immune response understand the immune cells
			CO4-. Students will learn the milestones in immunology - evolution of immunology
			5- Students will able to Monoclonal antibody production and hybridoma technology.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	M	S	S	L	S	M
CO2	S	M	S	S	M	S	M	S	M	S
CO3	S	S	M	S	M	S	M	M	M	S
CO4	S	S	S	S	M	L	S	S	S	M
CO5	S	M	S	S	M	S	S	S	L	S

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

FOOD AND DIARY MICROBIOLOGY

PAPER - 3

SUBJECT CODE: DAM13

04NO.OF.HOURS/ WEEK:04

CREDITS:04

TOTAL HOURS:65

Semester	Course Name	Course Credit	Course Outcomes
I Regulation ()2020-2021	food and diary microbiology	04	CO1- Students will able to acquire skills and competence in specialized immunological techniques in the diagnosis.
			CO2- Students will able to Impart knowledge about the underlying concepts of molecular and cellular mechanisms involved in the development and regulation of the immune response.
			CO3- Students will able to outline the Immunology and Immunotechnology.
			CO4- Students will learn the milestones in immunology - evolution of immunology..
			CO5- Students will able to Monoclonal antibody production and hybridoma technology.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	M	S	S	S	L
CO2	S	M	S	S	M	S	M	S	S	S
CO3	S	M	S	S	M	S	S	M	S	S
CO4	S	S	S	M	S	M	M	S	S	L
CO5	S	S	S	S	S	M	S	S	S	M

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

ALGAL TECHNOLOGY
PAPER - 4

SUBJECT CODE: DAM14

CREDITS: 04

NO.OF.HOURS/ WEEK: 03

TOTAL HOURS:65

Semester	Course Name	Course Credit	Course Outcomes
I Regulation (2020- 2021-	ALGAL TECHNOLOGY	04	1- Students will be able to understand the biotechnological potentials of microalgae
			2- Students able to illustrate the production of microbial biofertilizers
			CO3- Students will be able to learn the microbial herbicides
			CO4- Students will be able to perform the different production microbial products
			CO5- Students will learn the knowledge of biodegradation of oil and petroleum products

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	M	S	S	S	L
CO2	S	M	S	S	S	S	M	S	S	M
CO3	S	M	S	S	M	S	S	M	S	S
CO4	S	S	S	M	S	M	M	S	S	S
CO5	S	S	S	S	S	M	S	S	S	M

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

**BASIC OF MICROBIOLOGY
ELECTIVE PAPER – 1 C**

SUBJECT CODE:DAM15C

CREDITS: 03

NO.OF.HOURS/ WEEK:03

TOTAL HOURS: 39

Semester	Course Name	Course Credit	Course Outcomes
I Regulation (2020- 2021)	Basic of microbiology	03	CO1- Students will able to understand the microbiological techniques
			CO2- Students able to illustrate the production of microbial media
			CO3- Students will able to learn the microscopes
			CO4- Students will able to perform the different production microbial products.
			CO5- Students will learn the knowledge of types of media and its uses

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	M	S	S	S	L
CO2	S	M	S	S	S	S	M	S	S	M
CO3	S	M	S	S	M	S	S	M	S	S
CO4	S	S	S	M	S	M	M	S	S	S
CO5	S	S	S	S	S	M	S	S	S	M

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

SEMESTER-II**PAPER - 4****SUBJECT NAME: medical bacteriology and mycology****SUBJECT CODE: DAM21****CREDITS: 04****NO.OF.HOURS/ WEEK: 05****TOTAL HOURS: 65**

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021-)	Medical bacteriology and mycology	04	CO1- Students to create awareness of microbial diseases of human beings and causes and cures.
			CO2- The Students will able to learn the modern methods of microbial diagnosis.
			CO3- The Students will able to outline the bacteria and its causes.
			CO4- The Students will learn the milestones in virology and its vaccine production.
			CO5- Students would have understood the difference between mycology and parasitology

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	S	S	S	M
CO2	M	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	S	S	S	M	M	L
CO4	S	S	S	S	S	S	M	M	L	S
CO5	S	S	S	S	S	S	S	S	S	M

PO- Programme outcome, CO- Course outcome**S- Strong, M- Medium, L- Low (may be avoided)**

PAPER - 6

SUBJECT NAME: Industrial microbiology

SUBJECT CODE: DAM22

CREDITS: 05

NO.OF.HOURS/ WEEK: 05

TOTAL HOURS: 77

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	Industrial microbiology	05	CO1- Students would have understood industrial production methods
			CO2- By the end, of the course, students would have gained knowledge about the recent advances fermentation technology.
			CO3- Students would have learnt some aspects of drugs used for immunomodulation.
			CO4- Students would have gained an understanding of antibiotics and vitamins.
			CO5- Students would have understood the Essential drug concepts.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	S	S	S	S	S	M	M
CO2	S	S	S	S	M	S	S	SM	M	L
CO3	S	S	S	S	M	SL	S	S	S	S
CO4	S	S	S	S	S	M	M	L	S	S
CO5	S	S	S	M	L	S	S	S	S	M

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

PAPER - 7

SUBJECT NAME:MUSHROOM CULTIVATION

SUBJECT CODE: DAM23

NO.OF.HOURS/ WEEK: 03

CREDITS: 03

TOTAL HOURS: 39

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (20202021)	MUSHROOM CULTIVATION	03	CO1-
			CO2- Students will be able to Correlate Sequence analysis and phylogenetic analysis
			CO3- Students an understanding of the main social issues covered by the module; The Social History of England, 1500-1700.
			CO4- Students will be able to learn t an opportunity to develop genomics and proteomics
			CO5- The Students will be able to outline the further development of the Predicting Protein structure and function from sequence.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	M	M	M	M	S	S	S	L	L
CO2	S	M	M	M	M	S	S	S	S	L
CO3	S	S	S	S	S	M	M	L	S	S
CO4	S	S	S	S	S	S	M	M	M	M
CO5	S	S	S	S	S	S	M	S	S	L

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

ELECTIVE PAPER – 2 B**SUBJECT NAME: INFECTIOUS AND ITS CONTROL****SUBJECT CODE: DAM24B****CREDITS: 03****NO.OF.HOURS/ WEEK: 03****TOTAL HOURS: 39**

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	INFECTIOUS AND ITS CONTROL	03	CO1- The Students will able to understand the introduction to applied human anatomy and physiology.
			CO2- The Students will able to understand the Enzymes in Genetic Engineering and DNA Polymerase
			CO3- The Students will able to demonstrate Strategy of recombinant DNA technology
			CO4- The Students will able to understand Gene transfer technologies.
			CO5- Students will able to learn tDNA chips and microarray gene screen technology.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	S	S	S	M
CO2	M	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	S	S	S	M	M	L
CO4	S	S	S	S	S	S	M	M	L	S
CO5	S	S	S	S	S	S	S	S	S	M

PO- Programme outcome, CO- Course outcome**S- Strong, M- Medium, L- Low (may be avoided)**

PAPER - 1**SUBJECT NAME: PRACTICAL I****SUBJECT CODE: DAM25****CREDITS: 03****NO.OF.HOURS/ WEEK: 10****TOTAL HOURS: 39**

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	PRACTICAL- I	03	CO1- The Students will able to understand the introduction to applied human anatomy and physiology.
			CO2- The Students will able to understand the Enzymes in Genetic Engineering and DNA Polymerase
			CO3- The Students will able to demonstrate Strategy of recombinant DNA technology
			CO4- The Students will able to understand Gene transfer technologies.
			CO5- Students will able to learn tDNA chips and microarray gene screen technology.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	S	S	S	M
CO2	M	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	S	S	S	M	M	L
CO4	S	S	S	S	S	S	M	M	L	S
CO5	S	S	S	S	S	S	S	S	S	M

PO- Programme outcome, CO- Course outcome**S- Strong, M- Medium, L- Low (may be avoided)**

PAPER - 2

SUBJECT NAME: PRACTICAL II

SUBJECT CODE: DAM26

CREDITS: 05

NO.OF.HOURS/ WEEK: 08

TOTAL HOURS: 65

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	PRACTICAL II	5	CO1- The Students will able to understand the introduction to applied human anatomy and physiology.
			CO2- The Students will able to understand the Enzymes in Genetic Engineering and DNA Polymerase
			CO3- The Students will able to demonstrate Strategy of recombinant DNA technology
			CO4- The Students will able to understand Gene transfer technologies.
			CO5- Students will able to learn tDNA chips and microarray gene screen technology.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	S	S	S	M
CO2	M	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	S	S	S	M	M	L
CO4	S	S	S	S	S	S	M	M	L	S
CO5	S	S	S	S	S	S	S	S	S	M

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

SEMESTER-3**PAPER-8****SUBJECT NAME: MEDICAL VIROLOGY AND PARASITOLOGY****SUBJECT CODE: DAM31****CREDITS: 05****WEEKLY HOURS:5****TOTAL HOURS: 65****Course Outcomes**

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	MEDICAL VIROLOGY AND PARASITOL OGY	05	CO1- The Students will able to understand the Genetic Material, Recombination and Mutation.
			CO2- Students will able to learn Gene Transfer mechanism, Transduction and Transformations.
			CO3- The Students will able to understand the Biology of Plasmid, Structure of Plasmid and Extra-chromosomal heredity
			CO4- Students will able to learn Transposable Genetic Elements and Gene Mapping
			CO5- To understand the Concept of gene and Gene regulation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	M	S	S	L
CO2	S	M	S	S	M	S	S	S	S	M
CO3	S	S	S	S	S	S	M	M	L	S
CO4	S	S	M	S	S	S	S	M	S	M
CO5	M	S	S	S	M	S	L	S	S	S

PO- Programme outcome, CO- Course outcome**S- Strong, M- Medium, L- Low (may be avoided)**

PAPER - 9

SUBJECT NAME: AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY

SUBJECT CODE: DAM32

CREDITS: 04

NO.OF.HOURS/ WEEK: 05

TOTAL HOURS: 65

Course Outcomes

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY	04	CO1- Students will able to understand the Basics of DNA cloning
			CO2- Students will able to learn Methods of DNA and protein analysis.
			CO3- The Students will able to understand Construction of cDNA and genomic DNA libraries
			CO4- Students will able to learn DNA sequencing by Enzymatic and chemical method
			CO5- To understand the Protein engineering and proteome analysis and good laboratory procedure (GLP) and HACCP.

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	M	S	S	L
CO2	S	M	S	S	M	S	S	S	S	M
CO3	S	S	S	S	S	S	M	M	L	S
CO4	S	S	M	S	S	S	S	M	S	M
CO5	M	S	S	S	M	S	L	S	S	S

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

PAPER - 10

SUBJECT NAME: BIOTECHNOLOGY

SUBJECT CODE: DAM33

CREDITS: 04

NO.OF.HOURS/ WEEK: 04

TOTAL HOURS: 65

Course Outcomes

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	BIOTECHNOLOGY	04	CO1- Students to understand the microbial processes applicable in industries and scale-up processes..
			CO2- Students will able to learn Industrial fermentation and Downstream Processing.
			CO3- Students will able to understand the industrial Production of SCP
			CO4- Students will able to learn Algal biotechnology: Biotechnological potential of microalgae
			CO5- Students to understand the Concept of Nanobiotechnology

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	M	S	S	L
CO2	S	M	S	S	M	S	S	S	S	M
CO3	S	S	S	S	S	S	M	M	L	S
CO4	S	S	M	S	S	S	S	M	S	M
CO5	M	S	S	S	M	S	L	S	S	S

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

ELECTIVE PAPER – 3 A**SUBJECT NAME: RESEARCH METHODOLOGY****SUBJECT CODE: DAM34A****CREDITS: 03****NO.OF.HOURS/ WEEK: 03****TOTAL HOURS: 39****Course Outcomes**

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	RESEARCH METHODOLOGY	03	CO1 To enable the students to understand the basic biological techniques.
			CO2- Students will able to Analytical Techniques - Spectroscopic methods .
			CO3- The Students will able to understand Principles & Applications of Chromatographic Techniques
			CO4- Students will able to learn Electrophoresis Techniques
			CO5- To understand the Molecular Biological Techniques

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	M	S	S	L
CO2	S	M	S	S	M	S	S	S	S	M
CO3	S	S	S	S	S	S	M	M	L	S
CO4	S	S	M	S	S	S	S	M	S	M
CO5	M	S	S	S	M	S	L	S	S	S

PO- Programme outcome, CO- Course outcome**S- Strong, M- Medium, L- Low (may be avoided)**

SEMESTER-4**ELECTIVE PAPER –****SUBJECT NAME: RECOMBINANT DNA TECHNOLOGY****SUBJECT CODE: DAM42C****CREDITS: 05****NO.OF.HOURS/ WEEK: 05****TOTAL HOURS: 65****Course Outcomes**

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020-21)	RECOMBINANT DNA TECHNOLOGY	05	CO1- The Students will able to understand the Genetic Material, Recombination and Mutation.
			CO2- Students will able to learn Gene Transfer mechanism, Transduction and Transformations.
			CO3- The Students will able to understand the Biology of Plasmid, Structure of Plasmid and Extra-chromosomal heredity
			CO4- Students will able to learn Transposable Genetic Elements and Gene Mapping
			CO5- To understand the Concept of gene and Gene regulation

Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	M	S	S	S	S	M	S	S	L
CO2	S	S	S	S	M	S	S	S	L	M
CO3	S	S	S	M	S	S	M	M	L	S
CO4	S	S	M	M	S	S	S	M	S	L
CO5	M	S	S	S	M	S	L	S	S	S

PO- Programme outcome, CO- Course outcome**S- Strong, M- Medium, L- Low (may be avoided)**

PAPER-11**PAPER-03****SUBJECT NAME: PRACTICAL III****SUBJECT CODE: DAM43****CREDITS: 05****NO.OF.HOURS/ WEEK: 10****TOTAL HOURS: 77**

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 21)	PRACTICAL III	03	CO1- The Students will able to understand the Isolation of plasmid DNA from bacteria (mini preparation).
			CO2- The Students will able to Isolation of antibiotic resistant microbes.
			CO3- The Students will able to demonstrate Purification of plasmids - large scale
			CO4- The Students will able to PCR amplification - 16S rRNA and RAPD ,Southern blotting
			CO5- Students will able to learn the Separation of proteins by coloum chromatography, ion exchange - gel exclusion –adsorption.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	S	S	S	M
CO2	M	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	S	S	S	M	M	L
CO4	S	S	S	S	S	S	M	M	L	S
CO5	S	S	S	S	S	S	S	S	S	M

PO- Programme outcome, CO- Course outcome**S- Strong, M- Medium, L- Low (may be avoided)**

PAPER-04

SUBJECT NAME: PRACTICAL IV

SUBJECT CODE: DAM44

CREDITS: 05

NO.OF.HOURS/ WEEK: 05

TOTAL HOURS: 65

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	PRACTICAL IV	03	CO1- The Students will able to understand the introduction to applied human anatomy and physiology.
			CO2- The Students will able to understand the Enzymes in Genetic Engineering and DNA Polymerase
			CO3- The Students will able to demonstrate Strategy of recombinant DNA technology
			CO4- The Students will able to understand Gene transfer technologies.
			CO5- Students will able to learn tDNA chips and microarray gene screen technology.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	S	S	S	M
CO2	M	S	S	S	S	S	M	S	S	S
CO3	S	S	S	S	S	S	S	M	M	L
CO4	S	S	S	S	S	S	M	M	L	S
CO5	S	S	S	S	S	S	S	S	S	M

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low (may be avoided)

SUBJECT NAME: PROJECT/ DISSERTATION WITH VIVA VOCE
SUBJECT CODE: DAM45

CREDITS: 05

NO.OF.HOURS/ WEEK: 05

TOTAL HOURS: 77

Semester	Course Name	Course Credit	Course Outcomes
II Regulation (2020- 2021)	PROJECT/DISSERTATION WITH VIVA VOCE	03	CO1- The student to learn the knowledge and practice of public health research activity.
			CO2- Students will be enable them to carry out researches and solve research related problems and to help them in writing thesis and defend their work.
			CO3- Students will able to demonstrate Strategy of recombinant DNA technology
			CO4- Students will able to understand Gene transfer technologies.
			CO5- Students will able to learn tDNA chips and microarray gene screen technology.

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	S	S	S	M	S	S	S	S	S	M
CO2	M	S	S	S	S	S	M	S	S	S
CO3	S	M	S	S	S	S	S	M	M	L
CO4	S	M	S	S	S	S	M	M	L	S
CO5	S	S	S	S	S	S	S	S	S	M

PO- Programme outcome, CO- Course outcome

S- Strong, M- Medium, L- Low