A.V.V.M. SRI PUSHPAM COLLEGE (AUTONOMOUS),

POONDI-613 503, THANJAVUR

1.1.1 Curricula developed and implemented have relevance to the local, national, regional and global developmental needs which is reflected in Programme outcomes (POs), Programme Specific outcomes (PSOs) and Course Outcomes (COs) of the Programmes offered by the Institution

COURSE OUTCOMES

M.Sc., MICROBIOLOGY (2017 – 2018)

Semester	Category	Paper Code	Title of the Paper	Outcome
I	Core I	17P1MBC1	General Microbiology	• To enable the students to know the general principles of microbiology. • To enable the students to know the general characters and classification of microbes. • To enable the students to know the important features of cyanobacteria and fungi. • To enable the students to know the life cycle of virus. • To know about the extremophiles
	Core II	17P1MBC2	Biological Macromolecules	• To enable the students to know the various types of macromolecules in biological organisms. • To understand the role of different biological macromolecules in the physiology of microbes. • To know the biosynthetic pathways of various macromolecules.
	Core III	17P1MBC3	Food and Agricultural Microbiology	• To enable the students • To know the various types of microorganisms found in the food. • To know the principles and methods of preservation of foods. • To know the ways of contamination of food and the prevention methods. • To understand the principles of food spoilage and food borne diseases. • To know the role of beneficial and harmful microbes in agriculture. • To learn the microbial activity in soil. • To understand the role of biofertilizers and biopesticides in agriculture.

				• Agri University – Visit – within the state -2 -3 days.
	Core PL	17P1MBCP1	Practical - I	• To know about the basic principles involved in Microbiology. • To learn the methods of pure culture techniques of various microbes. • To know the various techniques involved in bacterial growth. • To isolate the enumerate microbes from various habitats. • To isolate and culture the coliphages from sewage.
	Major Elective -I	17P1MBEL1A 17P1MBEL1B	Bioinoculant Technology Seed Pathology	• To know the basic aspects of bioinoculant. • To study the detail on various types of bioinoculant. • To know about the production and mass multiplication of various bioinoculants. (or) • To know the seed borne microbes and diseases. • To know the methods of seed health testing. • To learn the process of seed borne disease development. • To know the quarantine for seed and organization for plant protection at various levels.
	Core I	17P2MBC4	Microbial Physiology	• To know about nutritional aspects of microbes. • To know the basic aspects of chemical reactions and their processes. • To know the various metabolic reactions of microbes.
	Core II	17P2MBC5	Environmental Microbiology	• To know the microorganisms from environment. • To know the different types of habitat and their microbial communities. • To learn the role of microbes in biodegradation of industrial, municipal and other waste products.

				• To understand the biological utilization of waste and food sources. • To understand the uses of microorganisms and control of pollution.
II	Core III	17P2MBC6	Recombinant DNA Technology	• To know the modern concepts of microbial biotechnology. • To learn genetic engineering, application, cloning strategies, gene libraries DNA cloning, database collection and bioinformatics. • To understand the microbes and their applications in enzyme technology.
	Core IV	17P2MBC7	Marine Microbiology	• To know the various microbes of marine • To learn the noval bioactive compounds • To know the various metabolic activity of marine microbes.
	Core PL	17P2MBCP2	Practical – II	• To know about the production of enzymes by microbes. • To estimate the various biochemical parameters in microbes. • To isolate, plasmids, chromosomal DNA. • To know the separation and quantification of nucleic acids. • To isolate resistant mutants. • To know about water and soil analysis
	Major Elective –II	17P2MBEL2A 17P2MBEL2B	Microbial Nanotechnology Soil Biology	• To understand the importance of nanotechnology. • To know the role of various types of nanoparticles. • To understand the applications of nanotechnology in medicine. • To enable the student to acquire the knowledge on nanoparticles in environment.
	Core I	17P3MBC8	Medical Microbiology	• To know the microbes of medical interest. • To learn the bacterial diseases and its treatment.

				• To learn the viral diseases and its treatment. • To learn the fungal diseases and its treatment. • Medical research Institute –lab visit compulsory neighbouring place within the state -2-3 days.
	Core II	17P3MBC9	Immunology	• To learn immunity and its types. • To know the antigen antibody interactions • To learn immunization with classical vaccines. Modern vaccination • To learn tumor immunology.
III	Core III	17P3MBC10	Microbial Genetics and Molecular Biology	• To know the types and forms of nucleic acids in the microbial world. • To understand the internal mechanism of the genes and its techniques. • To understand the isolation and purification of plasmids of microorganisms. • To learn the gene transformation and transduction mechanism.
	Core IV	17P3MBC11	Fundamental of Biological sciences	• To enable the students to understand the basic knowledge in Biological Sciences • To understand different life cycle patterns of plants and animals • To know the structure and reproductive behaviour of organisms
	Core PL	17P3MBCP3	Practical - III	• To identify the normal flora of human body. • To estimate various properties in urine, blood etc., • To perform various tests for disease confirmation. • To learn about mutant and isolation • To learn the bacterial transformation
	EDC	17P3MBEDC	Mushroom Technology	• Getting awareness about edible mushroom and their nutritional value. • Obtain basic knowledge for the methods of cultivation of mushrooms.

				• Understand how many types of food prepared by mushroom and their importance in human health. • Learn about the marketing of mushrooms in India and abroad
IV	Core I	17P4MBC12	Research Methodology	• To learn the techniques used in research. • To make the students understand the main principles in biostatistics. • To make the students apply statistical principles to biological studies. • To enable the students to understand computer hardware, software and various programming languages. • To make the students know the scientific application of packages. • To make the students understand the problems selection and project design.
	Core II	17P4MBC13	Microbial Biotechnology	• To know the principles of microbial fermentation and screening of industrially important strains. • To know the fermentor – its types and their uses in the production of various enzymes and products. • To learn about the fermentation products and the role of microbes involved. • To understand the IPR and industrial management practices. • Industrial visit is compulsory Regional /National / International level for a period of 5 days.
	Core PL	17P4MBCP4	Practical - IV	• To know the various aspects pertaining to research • To identify the instruments, their parts and applications • To prepare buffers, standard graphs etc

				• To estimate various physiological parameters in plants • To know about the enzymes and their role in plant physiology • To gain practical knowledge on the application of computer in research
	Major Elective-III	**17P4MBEL3A** **17P4MBEL3B**	**Biodiversity and Conservation Management** **Bioinformatics**	• The aim of the study of biodiversity conservation is to protect the existing flora and fauna for enhancing the beauty of our planet mother earth and to pass it on for our future generation with all the conserved resources for maintaining environment friendly sustainable development. • Field visit –Marine Biodiversity, Algal industries (or) • This subject was initiated with an aim to have basic knowledge in computer operating. Nowadays it is necessary to go to the websites and internet for future research work.
	Project	**17P4MBPR**	**Project Work**	• Undertake problem identification, formulation and solution. • Demonstrate the knowledge, skills and attitudes.
	CN	**17P4MBCN**	**Comprehension**	• To better for the preparations of Competitive Exams in advance.