

COURSE OBJECTIVES AND COURSE OUTCOMES

S. Y. B. Sc. SEMESTER - III

MICROBIOLOGY PAPER - II

SUBJECT: ENVIRONMENTAL MICROBIOLOGY (USMB302)

Sr. No.	Course Objectives	Course Outcomes
1)	After completing this course student expected: To know intramural and extramural air microbiology, aero microbiological pathway, sources of airborne pathogens & their products which cause airborne infections	After completing this course students will be able to :- To describe and explain AMB pathway intra & extramural air microbiology its effects on establishments also will be able to evaluate the causative agents of various types of airborne infections
2)	To learn various methods of air sanitisation as well as to know the air quality standards using microbiological test	To preach and practice the sanitization methods and protocols need to be followed to control an airborne infection
3)	To know various sources of fresh water their potability & quality, their microbiological diversity and levels of pathogens & various water borne diseases caused by the pathogens	Will practice to take care of portable water, avoid its contamination by pathogens and hence knows majors to be taken to control water borne outbreaks
4)	To know the composition of various types of domestic and industrial effluent water, their characteristics and various tests to measure their quality	Will be able to calculate and quantitate the parameters like the BOD, COD and TSS of biologically treated effluent water & to determine treated effluents acceptability before being discharged into natural environments to reduce pollution
5)	To gain knowledge about various biological treatment methods their merits and demerits effluent disposal and carry out test to determine to determine quality of effluent	To describe primary secondary biological enter Sri treatment processes switch beside its composition and characteristics also can explain merits and demerits of various biological processes used in effluent treatment
6)	To learn microorganisms present in various soil habitats their interactions with each other and with higher organisms their role in various activities useful for agriculture (Nitrogen fixation)	Can describe various interactions and effects of soil microorganisms on each other as well as on higher organisms and plants like parasitism antagonism symbiosis
7)	To gain knowledge about biogeochemical cycles, various methods of bioremediation which are helpful in controlling pollution of the soil environment	Can explain role of biogeochemical cycles for wellbeing of all environments also can describe various methods of bioremediation long with advantages and disadvantages to control environmental pollution

COURSE OBJECTIVES AND COURSE OUTCOMES

F. Y. B. Sc. SEMESTER - IV

MICROBIOLOGY PAPER - II

SUBJECT: APPLIED MICROBIOLOGY (USMB402)

Sr. No.	Course Objectives	Course Outcomes
1)	After completing this course student expected: To learn various aspects of innate immunity the primary line of defence along with phagocytoses an inflammation	After completing this course students will be able to :- Can evaluate the importance of innate immunity & role of phagocytosis, inflammation compliment, organs & cells involved in it
2)	To learn the science of Epidemiology also learn various tools to quantitate parameters of and measures adopted to control spread of various types of infections such as airborne ,water borne, nosocomial	can describe and determine various types of disease outbreaks like epidemic pandemic sporadic by using statistical tools for measuring frequency of disease and also alert the community to implement measures to control break
3)	To learn the composition of various foods, Factors affecting contamination & spoilage of foods by microorganisms and various methods of pathogen detection in food borne outbreaks	can describe various foods their ingredients possible contaminating and spoilage causing factors or agents
4)	to learn intrinsic and extrinsic factors which could be the basis of various preservation methods such as scanning high temperature fomentation PTC their merits and demerits	can identify the pathogenic agent causing the food borne outbreaks by following certain standard food testing protocols also can explain principles of preservation as well as various methods of preservation and their advantages and disadvantages
5)	To understand the composition of milk, its structure, it's physical and chemical properties, it's contamination & spoilage, methods of preservation like Pasteurization	can evaluate the quality of milk on the basis of its physical chemical properties as well as performing rapid platform tests
	To understand the various commercial products produced in Dairy industry such as milk powder yogurt, cheese their production process, shelf life, microorganisms used in fermentation	can describe various commercial products produced by dairy industry and are market like milk powder yogurt cheese exit and also can evaluate these products for their usage as pre or probiotic foods