

Subject Code: 2SC1020303	Subject Title: Microbiology Practical
COURSE TYPE: CORE COURSE	

Course Objective:

It is essential and very vital to learn the basic and fundamental aspects of Physiology and Metabolism for a student of Microbiology. The core metabolic and physiological processes that take place inside a microbial cell and its thorough knowledge opens up new avenues for research in biological sciences. This course will surely help inculcate the interests in the students of biological sciences.

Teaching scheme (hours) per week		Credit			Theory Marks		Practical Marks		Total
Theory	Practical	Theory	Practical	Total	Uni. Assessment	Cont. Assessment	Uni. Assessment	Cont. Assessment	
-	6	-	3	3	-	-	60	40	100

List of Experiments for PAPER: MICROBIAL PHYSIOLOGY AND METABOLISM:

1. Study and plot the growth curve of *E.coli* and Calculations of generation time and specific growth rate of bacteria from the graph plotted with the given data
2. Enumeration of bacteria by Standard Plate Count
3. Effect of temperature on growth of *E.coli*
4. Effect of pH on growth of *E.coli*
5. Effect of carbon and nitrogen sources on growth of *E.coli*
6. Effect of salt on growth of *E.coli*
7. Demonstration of the thermal death time and decimal reduction time of *E.coli*

List of Experiments for PAPER : ENVIRONMENTAL MICROBIOLOGY:

1. Isolation of microbes (bacteria & fungi) from soil (28°C & 45°C). (study of morphological and colony characters.)
2. Isolation of microbes (bacteria & fungi) from rhizosphere and rhizoplane (study of morphological and colony characters.)
3. Isolation of *Actinomyces* from soil sample
4. Determination of BOD of wastewater sample.
5. Study the presence of microbial activity by detecting (qualitatively) enzymes (dehydrogenase, amylase, urease) in soil.
6. Isolation of *Rhizobium* from root nodules.