

Subject Code: 2SC1020403	Subject Title: Microbiology Practical
COURSE TYPE: CORE COURSE	

Course Objective:

Molecular biology has been a subject that gives a lot of emphasis on the core and fundamental processes that are operated at the level of gene in unicellular and multicellular systems. Structures of DNA & RNA, Genetic Material, DNA Replication, Transcription and Translation are the processes that one needs to understand before going for advanced genetic techniques.

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 : MOLECULAR BIOLOGY:

1. Study of different types of DNA and RNA using micrographs and model / schematic representations/model
2. Study of semi-conservative replication of DNA through micrographs/schematic representations/model
3. Isolation of genomic DNA from *E. coli*
4. Estimation of RNA using colorimeter (orcinol reagent) or UV spectrophotometer (A₂₆₀ measurement)
5. Demonstration: Resolution and visualization of DNA by Agarose Gel Electrophoresis.
6. Demonstration: Resolution and visualization of proteins by Polyacrylamide Gel Electrophoresis (SDS-PAGE).

List of Experiments for PAPER: FOOD AND DAIRY MICROBIOLOGY:

1. MBRT of milk samples and their standard plate count.
2. Alkaline phosphatase test to check the efficiency of pasteurization of milk.
3. Isolation of any food borne bacteria from food products.
4. Isolation of spoilage microorganisms from spoiled vegetables/fruits.
5. Preparation of Yogurt/Dahi.