

Semester	1	
Course	Major	
Paper Code	CIMB230121P	
Paper Title	Basic Microbiology	
No. of Credits	4	
Theory / Practical / Composite	PRACTICAL (Non composite)	
Minimum No. of preparatory hours per week a student has to devote	4 hours/week	
Number of Modules	No modules	
Syllabus	<ol style="list-style-type: none"> 1. Microbiology: Good Laboratory Practices and Biosafety. 2. Study of the principle and applications of important instruments (biological safety cabinets, incubator, hot air oven, pH meter) used in the microbiology laboratory. 3. Preparation of culture media – Nutrient Agar and Nutrient Broth for bacterial cultivation. 4. Preparation of slants, stab and plate with NA. 5. Working and care of bright field microscope. 6. Demonstration of the presence of microflora in the environment by exposing nutrient agar plates to air. 7. Study of <i>Rhizopus</i>, <i>Penicillium</i>, <i>Aspergillus</i> using temporary mounts 8. Study of <i>Spirogyra</i> and <i>Chlamydomonas</i>, <i>Volvox</i> using temporary mounts 9. Study of the following protozoans using permanent mounts/photographs: <i>Amoeba</i>, <i>Entamoeba</i>, <i>Paramecium</i> and <i>Plasmodium</i>. 10. Staining: Simple, Negative, Grams, Capsule, Endospore staining 11. Media Preparation: Different types of media preparation 12. Pure culture: Pour plate, streak plate and spread plate 13. Estimation of bacterial growth: CFU count. 	
Learning Outcomes	<ul style="list-style-type: none"> • To study the microbial culture media preparation • To know microbiological laboratory techniques • To study the microbes under the microscope 	
Reading/Reference Lists	<ul style="list-style-type: none"> • Advanced Microbiology online MOOC course by Dr Arup Kumar Mitra- https://onlinecourses.swayam2.ac.in/cec22_bt20/preview • Cappucino J and Sherman N. (2010). Microbiology: A Laboratory Manual. 9th edition. Pearson Education Limited • 10. Practical manual of Microbiology Mitra & Sarkar. 	
Evaluation	Theory CIA: Semester Exam:	Practical (if applicable) CA: 80 Semester Exam: 15+ 5 (attendance)
Paper Structure for Theory Semester Exam		

