PAPER II APPLIED MICROBIOLOGY

SEMESTER :I

UNIT	TOPIC	NUMBER OF LECTURES
I	**BASIC TECHNIQUES IN MICROBIOLOGY**	**10**
	a) Staining techniques i. Dyes and simple staining ii. Differential staining iii. Staining specific structures	 **1** **1**
	b) Cultural techniques i. Aseptic techniques ii. Isolation techniques iii. Enumeration techniques • Surface spread method and pour plate method • Use of counting chambers • DMC	**3** **1** **1** **3**
II	**CONTROL OF MICROORGANISMS: STERILIZATION & DISINFECTION**	**10**
	a) Sterilization methods i. Heat –moist and dry heat ii. Filtration iii. Gamma rays **iv.** UV rays	 2 1
	b) Chemical disinfectants Phenolics, alcohols, Chlorhexidines, Halogens, Quaternary ammonium compounds, Heavy metals, Aldehydes, Peroxygens	1 1

		5
III	**BASIC INSTRUMENTATION IN MICROBIOLOGY –I** Parts, operation and functioning i. Autoclave ii. Hot air iii.Incubator iv.Membrane filters and their types	**10** 4 1 3 2

PRACTICALS
APPLIED MICROBIOLOGY

PAPER :II

SEMESTER: I

1. Monochrome staining
2. Negative staining
3. Gram staining of sputum sample
4. Special staining to demonstrate capsule/ stain cell wall /metachromatic granules/lipids/endospore
5. Aseptic transfer technique of liquid and solid material with and without pipette
   i. Tube to tube
   ii. Tube to plate
   iii. Flask to tube
6. Isolation by streak plate method
7. Enumeration of viable count Surface spread and Pour plate method
8. Enumeration of total count by using Hemocytometer.
9. Study effect of UV radiations on survival of microorganisms.
10. Validation of Autoclave (biological) and Hot air Oven
11. Assignment on Survey of disinfectants / antiseptics (hand wash) available in the market, their mode of action and active ingredient used in it.