PGDMLT-1008A: PRACTICALS BASED ON PAPER PGDMLT- 1004A

(Basics of Microbiology)

Semester: I	
Course (subject) Code	PGDMLT-1008A
Subject Title	Practicals Based on Paper PGDMLT- 1004A (Basics of Microbiology)
Subject Outcome	At the end of the course, the students will get knowledge of • Cultivate and study of morphological and growth characteristics of microorganisms. • Perform differential and special staining techniques for identification of causative agents. • Identify fungi based on morphological and growth characteristics • Check the effect of various physical and chemical agents on bacterial growth

Course Content

1) Examination of living Bacteria
    a. Wet mount preparation
    b. Hanging – drop technique
    c. Semisolid stab agar test
2) Observation of Bacteria by staining techniques: a) Simple Staining b) Negative Staining.
3) Differential Staining Techniques: a) Gram Staining b) Acid fast Staining.
4) Special Staining Techniques: a) Spirochaete Staining b) Metachromatic Granules Staining. c) Spore Staining d) Capsule Staining
5) Study of Cultural and Growth Characteristics on Bacteriological Media: Nutrient Agar, Mac Conkey Agar, Eosin Methylene Agar, W.B. Agar, Blood Agar, Chocolate Agar, MSA
6) Study of some important biochemical reactions:
    a) Indole Test, Methyl red Test, V.P. Test, Citrate Utilization Test, H_2S Production (2% peptone), TSI slants, Sugars Fermentation Test
    b) Test for enzyme activity-Oxidase, Catalase, Coagulase, Urease
7) Bactericidal effect of Antiseptic and Disinfectant on microbial growth

Reference Books:

Sr. No.	Title/Edition	Authors	Publisher
1	Text Book of Medical Laboratory Technology (Volume-1)/3rd	P. B. Godkar D. P. Godkar	Bhalani Publishing House
2	Experimental Microbiology, Volume 1 & 2	Patel, R. J., and Patel, R. K	Aditya Pub