2.15 30815 ELEMENTRY MICROSCOPY AND MICROBIOLOGY

UNIT-1 MICROSCOPY

1.1 Different types of microscopes-mechanical and optical parts in microscope.
1.2 Slide preparation for microscopic study:
1.3 Preparation of materials, fixing, embodding, and section cutting, staining and mounting.
1.4 Application of microscopy:

UNIT-2 ANATOMICAL STRUCTURE OF HAIR AND WOOL

2.1 Grain patterns of hides and skins
2.2 Fibre structure of leather-microscopic assessment of leather,
2.3 Application of microscopy to note the changes that may take place in processing i.e. curing, soaking, liming, deliming, bating, pickling, tanning and finishing.
2.4 Role of micro-organism in different processes.

UNIT-3 BACTERIOLOGY

3.1 Fundamentals of Bacteriology: Microscopic forms of life, recognition under microscope their culture,
3.2 Preparation of various culture media- sterilization morphological characteristics of bacteria, staining of bacteria and classification-
3.3 Biochemical properties of bacteria-bacteria count.
3.4 Action of Bacteria on hides and skins: Damage caused by bacterial infestation, hair slip, liberation of ammonia
3.5 Halophilic bacteria, problem of mod heat and its cure
3.6 Bacterial analysis of various tannery substrates in the prevention of growth by use of preservatives as bacteriostatic and bacteriocida agents,
3.7 Determination of productive activity of bacteria.

UNIT-4 MOULDS

4.1 Moulds and their difference from bacteria-damages that can be produced by moulds to leather, tan liquor, pickled skins and mould prevention. .
4.2 Mould growth to finished vegetable tanned leather/bed blue chrome.
4.3 Study of preservative in leather science,
4.4 Action of fungs on leather,
4.5 Different types of fungs.

Reference Books:

1. Microbiology's- Michel J. Pelczar, JR, E.C.S. Chan, Noel R. Krieg (Fifth Edition)
2. Molecular Biology of the gene-walson, Hopkins, Roberts, Steitz Weiner (Fourth Edition)
3. Standard Methods –Examination of water and wastewater-20th Edition Lenove S. Clesceri, Arnold E. Greenberg, Andrew D. Eaton