

2.16 30816 LEATHER TRADE ENGINEERING

UNIT-1 SELECTION OF SITE AND LAYOUT

- 1.1 Location of tannery, factors influencing the selection of the site, geographical background, soil and water, power,
- 1.2 Transport facilities, facilities for disposal of effluents, port facilities for export and import of tannery goods.
- 1.3 Location of Tannery: Ground and size of the tannery, layout of different sections with various pots, drums and other machinery,
- 1.4 A general idea of the construction of building for free air, light and ventilators, window, doors, roof natural and artificial lighting arrangements.

UNIT-2 WATER AND POWER

- 2.1 Sources of water supply and its storing, distribution of water by pipe lines, valves etc.
- 2.2 Production of steam for power, steam boilers, different types of boilers,
- 2.3 Their main components and functions, advantages and disadvantages of machine power and electrical power.

UNIT-3 DRUMS, PADDLES AND PITS

- 3.1 Size and description of drums, paddles along with their weight and cost, their reaction and construction.
- 3.2 Drives for drums and paddles, routine maintenance and repair arrangement of different pits, construction details of pits size and cost of pits,
- 3.3 Preparation of estimate for the construction of the pits, building, and total cost of tannery yards with and without machinery.

UNIT-4 TANNERY MACHINERY

- 4.1 General construction, descriptive idea of various tanning machinery like flashing, Hair trimming, Vaccume, Toggle, Samming, Wet mollisha scudding, setting, shaving splitting, buffing, stacking etc.
- 4.2 Mode of working, fuel and speed, power required, types of driver for each machine, total power in kw, general maintenance and repair;
- 4.3 Repair, size weight and cost of each machine and its availability.

UNIT-5 FINISHING MACHINES

- 5.1 Principle of working of various finishing machines Buffering, Spray, Embossing, Milling, Rollor, Cotter, Hydraulic Press Contiles Press with free hand drawing, weight, cost and capacities power required,
- 5.2 Total power for finishing yard, maintenance and repair of machinery, safety precautions to be observed in case of each machine.
- 5.3 Conservation of energy and water.

UNIT-6 PLANT MAINTENANCE

- 6.1 Functions of maintenance department.
- 6.2 Maintenance Procedure-Preventive maintenance,
- 6.3 Routine maintenance and breakdown maintenance of leather machineries and accessories.
- 6.4 Lubrication and Oiling procedure in routine maintenance and development of lubrication charts.
- 6.5 Fabrication and repair of components for breakdown maintenance.
- 6.6 Estimating the repair and maintenance cost.
- 6.7 Safety, Definition, Importance, Causes of Accidents, Accident Prevention rules, General safety devices.

Reference books:

- 1. Standard Methods –Examination of water and wastewater-20th Edition Lenove S. Clesceri, Arnold E. Greenberg, Andrew D. Eaton
- 2. Biological wastewater treatment-Theory and applications-C.P. Lesline, Grady,Jr. Henry C. Lim

