

SYLLABUS FOR TAMILNADU COMMON ENTRANCE TEST (TANCET)

PART – III

16. LEATHER TECHNOLOGY

Pre Tanning Operations : Hides & Skins – Histological characteristics structure of hides & skins defects – curing & preservation methods – Animal by products – soaking, unhairing, liming, deliming, bating, pickling, depickling and degreasing– Their objectives & principles involved. Biochemistry of collagen and other substances – chemicals & auxiliaries used in pre-tanning operations – General pretanning processes for manufacture of different types of heavy and light leathers - Process control in pretanning – Ecofriendly pretanning operations – Physical and chemical testing - Standards and quality control measures in pretanning. By products of animal and tannery operations.

Tanning Operations: Tanning materials – Vegetable, mineral and organic - their classification – chemistry & Technology of tanning materials & methods – characterization manufacture & analysis of various tanning materials. Theory & mechanism of vegetable, chrome, Aluminium, Zirconium, Iron, Titanium, Aldehyde, Oil and other organic tanning. Various unit operations involved in tanning processes their objectives & principles – cleaner processing options – Analysis & characterization of various types of leathers - Physical and chemical testing - Standards and quality control measures in tanning operations.

Post Tanning and Finishing Operations : Retanning, dyeing – fatliquoring and finishing operations – Their objectives & principles – chemicals used for the above unit operations – Syntans, fatliquors, dyes, dye-auxiliaries, pigments, acrylic and protein binders, wax emulsion, fillers, topcoats, NC, CAB lacquers and lacquer emulsions, feel modifiers, their nature & properties in finishing – machinery & methods for post tanning and finishing operations – upgradation methods – chemical and physical properties required for various finished leathers – physical & chemical testing of finished leathers – Tannery Effluent treatment –Effluent treatment plant - Liquid and solid waste management.

Leathers & Leather Products : Various types of leathers – upper, sole, garment, leather goods, sports & specially leathers – their characteristics. Leather supplement and synthetics - Design & manufacture of footwear, leather goods & garments. Leather Economics and Industrial Management – Project feasibility reports – organization & management of leather sector – marketing & export of leather & products - Machines for leather products manufacture - mechanics & operation - IT applications for leather & product design. Professional Ethics and human values.