

## 16 — LEATHER TECHNOLOGY

(Answer ALL questions)

56. The non-helical regions present in collagen molecule are called as
1. Stereo peptides
  2. Nucleotides
  3. Teloptides
  4. Polyamides
57. Red heat is caused by
1. Halophilic bacteria
  2. Cyano bacteria
  3. Algae
  4. Fungi
58. \_\_\_\_\_ pigments have a greater hiding power than \_\_\_\_\_ pigments of a similar shade because of \_\_\_\_\_ refractive index.
1. organic, inorganic, low
  2. organic, inorganic, high
  3. organic, organic, low
  4. inorganic, organic, high
59. The major utility gas liberated from the anaerobic digestion of tannery effluents is
1. Carbon dioxide
  2. Hydrogen sulphide
  3. Ammonia
  4. Methane
60. Preservation by wet salting reduces the average moisture content of hides/skin from \_\_\_\_\_ % to \_\_\_\_\_ %.
1. 55, 40
  2. 60, 50
  3. 65, 35
  4. 65, 50
61. The following reaction is an example of  $[\text{Cr}(\text{H}_2\text{O})_6]^{3+} + \text{Cl}^- \rightarrow [\text{Cr}(\text{H}_2\text{O})_5\text{Cl}] + \text{H}_2\text{O}$
1. Protolysis
  2. Anation
  3. Olation
  4. Condensation
62. The double layer effect in sheep skin is a result of
1. Breed variation
  2. Fat pockets
  3. Curing methods
  4. Bad flaying
63. The cells that synthesise collagen are known as
1. Myablasts
  2. Fibroblasts
  3. Lymphocytes
  4. Erythrocytes
64. The vitamin which plays an important role in the biosynthesis of collagen is
1. Vitamin E
  2. Vitamin C
  3. Vitamin E and C
  4. Vitamin B12
65. Biochemical changes during silage fermentation is as follows.
1. fermentation of proteins by Clostridium group of organisms
  2. fermentation of carbohydrates by Lactobacilli organisms into lactic acid
  3. deamination and decarboxylation of protein
  4. production of volatile fatty acids
66. Denaturation of a protein is due to
1. Alteration of the amino acid sequence of the protein
  2. Rupturing of the polypeptide chain at the peptide bond
  3. Chemical decomposition of the protein
  4. Disruption of the three-dimensional shape of the protein

67. Which of the following facts encourages the replacement of animals and plants by microorganisms as sources of enzymes?
1. The great diversity of microbes available
  2. The microorganisms are often associated with disease
  3. The post translational modification of proteins
  4. RNA processing
68. The main advantage of floatless chrome tanning system is
1. lighter colour
  2. quicker penetration
  3. uniform distribution
  4. improved fixation
69. Eriochrome Black T is used in
1. Checking the complete penetration of chrome in the cut cross section of pelt
  2. Quantitative analysis of water
  3. Estimation of chrome content in chrome tanning salt
  4. Dyeing of chrome tanned leather
70. Wet look leathers can be made using
1. PU finish
  2. Solvent finish
  3. Nitrocellulose lacquer
  4. CAB lacquer
71. Which of the following tanning system will suit to obtain short and fine nap in leathers?
1. full chrome leather
  2. aldehyde tanned leather
  3. oil tanned leather
  4. semi chrome tanned leather
72. Washing after neutralization is necessary to ensure
1. removal of excess alkali
  2. removal of chromium hydroxide formed
  3. removal of neutral salts
  4. effective fixation of dyes and fatliquors
73. Cholesterol can be manufactured from
1. Blood
  2. Pancreas
  3. Cattle brain
  4. Calf-stomach
74. Dyes based on the following compounds are banned in leather
1. natural compounds
  2. 22 aryl amines including benzidine
  3. black pigments
  4. all aryl amines
75. During the cutting operation on leather for making a shoe, the lines of tightness must run from
1. toe to heel
  2. heel to toe
  3. heel to sides
  4. toe to sides
76. The operation done to reduce thickness of edges of upper sections during shoe manufacture is called
1. clicking
  2. closing
  3. lasting
  4. skiving
77. Permanent elongation for a belting leather should be
1. < 2%
  2. > 2%
  3. not > 5 %
  4. none of the above
78. The abrasion resistant sole leather is characterized by
1. high angle of weave
  2. medium angle of weave
  3. low angle of weave
  4. none of the above

79. % Water absorption of good chamois leather by weight of the leather is
1. < 100%
  2. 100 – 200%
  3. 200 – 300%
  4. > 400%
80. 'Xenotest' is carried out for assessing
1. rub fastness
  2. light fastness
  3. colour bleeding
  4. finish adhesion
81. The foremost area of the shoe is known as
1. Heel
  2. Toe
  3. Vamp
  4. Toe cap
82. When sulfonate content of a syntan increases, the solubility;
1. decreases
  2. increases
  3. does not change
  4. first increases then decreases
83. Fats compared to oils have
1. higher melting temperature
  2. less unsaturated glycerides of fatty acids
  3. much higher reactivity to oxygen
  4. lower melting temperature
84. Denitrification process carried out by a few groups of bacteria reduces nitrate ( $\text{NO}_3$ ) to nitrogen ( $\text{N}_2$ ) gas. How many electrons per nitrogen atom are transferred to nitrate in this process
1. 2
  2. 3
  3. 4
  4. 5
85. The Michaelis-Menton constant  $K_m$  is a measure of
1. The rate of the reaction
  2. The affinity of the enzyme for the substrate
  3. The concentration of the Enzyme-Substrate (ES) intermediate
  4. None of the above
86. One Baume is equal to
1.  $6.9^\circ \text{BK}$
  2.  $10.1^\circ \text{BK}$
  3.  $13.0^\circ \text{BK}$
  4.  $2.1^\circ \text{BK}$
87. Mechanism of chrome tanning is based on
1. Coordinate covalent cross-linking
  2. Hydrogen bonding
  3. Covalent cross links
  4. Unipoint fixation through ionic interactions
88. Important property of aircraft upholstery leather is
1. abrasion
  2. stitch tear
  3. anti fogging
  4. softness
89. Binders used in the bottom coat should be \_\_\_\_\_ with \_\_\_\_\_ adhesion property.
1. soft, poor
  2. hard, minimum
  3. hard, good
  4. soft, good
90. Maximum permissible limit of TDS in wastewater for discharging in water bodies
1. 500 ppm
  2. 1200 ppm
  3. 2100 ppm
  4. 2500 ppm

91. If the radius 'r' of a drum is doubled, effective volume is increased by a factor of
1. 2
  2. 8
  3. 4
  4. 0.5
92. Chrome soaps give \_\_\_\_\_ stains in wet blue skins.
1. black
  2. pink
  3. brown
  4. red
93. B.O.D. stipulation for industrial waste discharge into inland surface water is
1. 90 mg/l
  2. 30 mg/l
  3. 60 mg/l
  4. 120 mg/l
94. Permissible limit of total chromium discharge as Cr in treated effluent is
1. 4 mg/l
  2. 10 mg/l
  3. 1 mg/l
  4. 2 mg/l
95. The minimum tensile recommended by BIS for chrome upper leather is
1. 210 Kg.cm<sup>2</sup>
  2. 250 Kg.cm<sup>2</sup>
  3. 300 Kg.cm<sup>2</sup>
  4. 150 Kg.cm<sup>2</sup>
96. Oils for oil pull up leather are chosen on the basis of their
1. Iodine value
  2. Refractive Index
  3. Temperature coefficient of viscosity
  4. Combination of the above
97. Darkening of vegetable tanned leather is due to
1. Formation of bloom
  2. Formation of quinones
  3. Myrobalan
  4. Glucose
98. Folding of the triple helix in Type I collagen occurs from
1. N-terminus to C-terminus
  2. C-terminus to N-terminus
  3. From both C and N-terminals
  4. From the triple helix
99. The mechanism of unhairing using Lime-sulphide is
1. Reduction
  2. Oxidation
  3. Hydrogen Bonding
  4. Condensation
100. In Zirconium (IV), the electronic configuration of valence shell is
1. 4d<sup>3</sup>
  2. 4d<sup>0</sup>
  3. 4d<sup>6</sup>
  4. 3d<sup>5</sup>
101. Primary treatment of waste water includes
1. sedimentation
  2. aerobic treatment
  3. anaerobic treatment
  4. biological oxidation
102. Oxygen consumed for the organisms which utilize the organic matter present in the water is a measure of
1. BOD
  2. DO
  3. COD
  4. TDS

103. Which of the following raw material have high hair density?
1. Cow
  2. Sheep
  3. Goat
  4. Cow calf
104. Eco challenges posed by VOCs are
1. photochemical smog
  2. generation of ozone
  3. greenhouse effect
  4. all of above
105. Cross-linking of collagen by lysyl oxidase is initiated in
1. Cytoplasm
  2. Nucleus
  3. Extracellular compartment
  4. Both the cytoplasm and extracellular compartment
106. In the preparation of syntans, as the sulphuric acid to phenol ratio increases
1. solubility of syntan decreases
  2. tanning power increases
  3. both solubility and tanning power decrease
  4. solubility increases, tanning power decreases
107. The pKa of side chain carboxyl group of aspartic acid is
1. 2.80
  2. 4.20
  3. 3.76
  4. 4.00
108. How many ligand field bands do you expect for Cr(III) complexes?
1. 1
  2. 2
  3. 0
  4. 3
109. The chemical used in chamoising for improving the colour and buffability is
1. magnesium sulphate
  2. magnesium bicarbonate
  3. magnesium carbonate
  4. calcium carbonate
110. The tannins in plant material has role in \_\_\_\_\_ of the plant.
1. Energy source
  2. Photosynthesis
  3. Water transport
  4. Defense mechanism
111. Choose the most important mechanical operation in suede leather manufacture :
1. buffing
  2. sammying
  3. setting
  4. shaving
112. The RPM of the fleshing cylinder in a fleshing machine is
1. 500
  2. 1000
  3. 2000
  4. 1500
113. Surgical sutures are made from
1. chrome shavings
  2. nails
  3. small intestines
  4. flesh trimmings
114. The denatured form of collagen is
1. peptones
  2. gelatine
  3. dextrine
  4. none of the above
115. In a setting machine the helical bladed cylinder is used to
1. remove wrinkles and set the grain
  2. feed the leather
  3. guide the leather over the rubber roll
  4. remove moisture from the leather