

PART III

25 — TEXTILE TECHNOLOGY

(Answer ALL questions)

56. Glass transition temperature is explained by
- Ficke's law
 - Free volume theory
 - Hooks law
 - Amonton's law
57. Which one of the following fibre is closest to wool like?
- PET
 - Nylon 66
 - Acrylic
 - Polypropylene
58. In X ray diffraction study, the broadening of spots arcs shows a
- decrease in the degree of orientation
 - increase in degree of orientation
 - decrease in space between molecular chain
 - increase in space between molecular chain
59. In a fibre, the dimensions of the crystalline regions are
- 100 times less than the length of the molecules
 - 1000 times less than the length of the molecules
 - 10 times less than the length of the molecules
 - 10000 times less than the length of the molecules
60. An Unknown fibre on treatment with lead acetate forms lead sulphide. Identify the fibre.
- Wool
 - Silk
 - Flax
 - Jute
61. Chemical depolymerisation is more suitable for
- Condensation Polymerisation
 - Addition polymerisation
 - Interfacial polymerisation
 - Solid state polymerization
62. Poor drawing in polypropylene results in _____ crystal structure
- α
 - γ
 - Pseudo hexagonal
 - Smectic
63. False twist texturising is not done for
- Polypropylene
 - Polyester
 - Nylon
 - Acrylic
64. The most preferred fiber for tooth brush is
- Nylon 6
 - Nylon 6,6
 - Nylon 6,10
 - Nylon 6,12

65. The fiber that is prone to fibrillation due to poor lateral cohesion is
- Polypropylene
 - Nylon 6, 6
 - Poly ethylene
 - Nylon 6, 10
66. Accessibility in a cellulosic fibre defines to
- The availability of internal surfaces, volumes or OH groups
 - The ratio of crystalline and amorphous region
 - Orientation of molecular chain
 - Lateral bond intensity of fibre
67. With respect to fibre structure, spherulite is a
- Molecular configuration
 - Orientation of fibre polymer chain
 - Structural degradation nature of a fibre
 - Thermal transition
68. In the carding machine, draft of less than one occurs in between
- Feed roller and licker-in
 - Licker-in and cylinder
 - Cylinder and doffer
 - Doffer and stripping roller
69. The centrifugal force (N) acting on a material mass 2g present at the tip of a beater of radius 25 cm rotating at 600 rpm is
- $0.1 \pi^2$
 - $0.2 \pi^2$
 - 0.005π
 - $0.05 \pi^2$
70. Cleaning efficiency of blow room is 60%. The trash present in the cotton fed to the blow room is 5% and the trash present in the sliver of card is 0.2%. The cleaning efficiency of card is
- 36%
 - 64%
 - 90%
 - 96%
71. Which one of the following is not the cause for slub in the yarn?
- Damaged front top roller
 - Worn out, punctured bottom apron
 - Worn out, punctured top apron
 - Eccentric front bottom roller of the drafting system of ring frame
72. The number of fibres in cross section of comber lap for achieving best combing should be about
- 50,000
 - 80,000
 - 5,00,000
 - 8,00,000
73. The comber noil index in the comber determines the distance between
- Top comb and tip of the wires of combing cylinder
 - Tip of the wires of combing cylinder and bottom nipper plate
 - Nipping point of back detaching rollers and tip of the wires of combing cylinder
 - Nipping points of nipper plates and back detaching rollers
74. Maximum soft waste and hard waste are generated at _____ and _____ respectively
- Ring frame, winding machine
 - Roving frame, winding machine
 - Ring frame, ring frame
 - Roving frame, ring frame

75. Which one of the following has higher neps removal efficiency?
- Blowroom machinery
 - Carding machine
 - Both blow room and carding machine
 - Ring frame
76. Narrower rotor groove produce
- Soft yarn
 - Low strength yarn
 - Stronger yarn
 - High hairy yarn
77. In the rotor spinning machine, maximum draft occurs between
- Sliver feed and fibre collecting groove
 - Rotor groove and draw off nozzle
 - Draw off nozzle and take off roller
 - Rotor groove and take off roller
78. Which one of the following is adhesive process of producing yarn?
- Plyfil
 - Parafil
 - Repco
 - Twilo
79. Which one of the following spinning systems is odd with respect to form of feed?
- Rotor
 - Two nozzle airjet
 - Ring
 - DREF 2000
80. _____ is the spindle of 10 cm diameter cheese package having winding rate 220 m/min.
- 7 rpm
 - 70 rpm
 - 700 rpm
 - 7000 rpm
81. The net winding rate of a 'x' diameter cheese package is expressed as
- $V/\sin \theta$
 - $V/\cos \theta$
 - $V_t \times \sin \theta$
 - $V_t \times \cos \theta$
82. In a precision cheese winding machine the traverse ratio was found to be 5/2. In this case the number of diamonds across the circumference of the package is
- 2
 - 2.5
 - 5
 - 7
83. In winding cylindrical packages, the term 'revolution gain' is calculated by
- Linear gain / package circumference
 - Linear gain / package diameter
 - Linear gain / package speed
 - Linear gain / yarn traverse speed
84. In cone winding machine, the yarn is entering into a disc type tensioner with the input tension of 50mN. The tensioner adds 50mN tension in the yarn. Calculate the final tension in the yarn while leaving the disc type tensioner.
- 60 mN
 - 70 mN
 - 80 mN
 - 100 mN

85. In which of the following shedding principle all the warp threads are unnecessarily strained during the weaving process?
- Open shed
 - Semi open shed
 - Centre closed shed
 - Bottom closed shed
86. The introduction of float stitches in the knitted fabric will _____
- Increase the thickness of the fabric
 - Increase the width of the fabric
 - Reduce the thickness of the fabric
 - Increase the elongation of the fabric
87. In a picking mechanism of plain loom, the power for picking _____
- Increases linearly with the mass of the shuttle
 - Decreases proportionately with the square of loom width
 - Decreases linearly with the mass of the shuttle
 - Increases proportionately with the square root of loom width
88. The angle position of the pattern wheel with respect to the cylinder is _____
- 30 degree
 - 45 degree
 - 35 degree
 - 50 degree
89. When entering the shed, a shuttle has a speed of 16m/s. If the retardation during its passage through the shed is 1.0m/s^2 and the time for the shuttle passage is 0.1m/s, find out the speed of the shuttle as it leaves the shed
- 15.1 m/s
 - 15.9 m/s
 - 16.0 m/s
 - 16.1 m/s
90. Weft transfer takes place in _____ machine
- Automatic shuttle weaving
 - Projectile weaving
 - Air-jet weaving
 - Rapier weaving
91. The force released by the picking stick in Projectile loom depends on _____
- Loom speed
 - Projectile mass
 - Torsion bar adjustment
 - Mass of the cam
92. Copper Number is used to estimate the _____ groups in the bleached fabrics
- Aldehyde
 - Acidic
 - Amino
 - Azo
93. _____ dyes are more prone to gas fading
- reactive dyes
 - disperse dyes
 - acid dyes
 - vat dyes
94. The fluorescent whitening agents absorb light in _____
- UV region
 - Visible region
 - Infra red region
 - Microwave region

95. Mercerization of the cotton fabric
- Increases its dyeability
 - Decrease the solubility of the fibers in subsequent washing
 - Reduces its dyeability
 - Reduces its luster
96. Acid dyes are called so because
- They are soluble in acids
 - They are acids
 - They dye protein fibers
 - They possess hydroxyl groups
97. Pigment Printing
- Can be done onto only cellulosic fabric
 - Needs a binder
 - Uses Starch for thickening
 - Needs an oxidising environment
98. Which one of the following is bridging group in reactive dye?
- Bromo
 - Chloro
 - Azo
 - Imino
99. Printing thickeners are examples for
- Shear thinning
 - Shear thickening
 - Bingham Solids
 - Newtonian fluids
100. Souring is used to
- Neutralize the pH of the fabric
 - Increase the absorbance and transmittance
 - Increase the absorption of water
 - Increase the absorption of oleophilic solvents
101. The action of hydrogen peroxide bleaching agent is less rapid at
- pH = 3.5
 - pH = 7.5
 - pH = 8.5
 - pH = 9.5
102. The thickener least preferred for printing with reactive dyeing is
- Starch
 - CMC
 - Sodium alginate
 - Guar gum
103. Washing fastness is poor for _____ dyed fabrics.
- Reactive
 - Sulphur
 - Direct
 - Disperse
104. If the weight of a sample of cotton decreases from 107.5 to 100 grams when heated at 105 °C for 2 hours. The Moisture Content and Regain is
- 7.0 and 7.5
 - 8.0 and 8.5
 - 9.0 and 9.5
 - 8.5 and 9.0
105. During length measurement on fibrograph 2.5% span length was found to be 25 mm. It means
- 2.5% of fibers clamped are not in 25 mm length
 - 2.5% of fibers clamped are longer than 25 mm in length
 - 2.5% of fibers clamped are 25 mm longer
 - 2.5% of fibers clamped are less than 25 mm

106. A fiber specimen of 200 mm extended by 10 % when loaded with 500 CN force. The length of the specimen after removal of load was found to be 202 mm. The percentage elastic recovery of the specimen is
- 70%
 - 80%
 - 92%
 - 20%
107. If 740 mature fibers and 260 immature fibers were found in a test specimen, the percent maturity would be
- 78
 - 74
 - 72
 - 26
108. In visual examination method of yarn grading, for the yarn number of 32 to 65, the number of wraps per inch will be
- 16
 - 20
 - 26
 - 38
109. The conversion factor used to convert from Denier to English Worsted Count is
- 7972/denier
 - 5315/denier
 - 4500/denier
 - 590.5/denier
110. Calculate the twist angle of a spun cotton yarn twisted to give a twist factor of 5
- $29^{\circ} 18'$
 - $35^{\circ} 18'$
 - $32^{\circ} 18'$
 - $37^{\circ} 18'$
111. On Classimat the objectionable faults are
- A4, B4, C4, D4
 - B3, B4, D3, D4
 - C3, C4, D3, D4
 - A4, B4, C3, C4, D3, D4
112. The mass of 500 meters of cotton yarn is 25 grains. Calculate its count in French Cotton System
- 10^s Ne
 - 15^s Ne
 - 13^s Ne
 - 20^s Ne
113. The sample size for measuring the tensile strength of fabric in KES-FB system is
- 5 cm $\times$ 20 cm
 - 6 cm $\times$ 20 cm
 - 5 cm $\times$ 36 cm
 - 6 cm $\times$ 36 cm
114. A water drop with a contact angle _____ is hydrophobic.
- above 90°
 - below 90°
 - below 75°
 - above 150°
115. A fabric roll of 120 yard long and 48 inches wide contain the following defects 2 defects upto 3 inch, 5 defects over 3 inch but less than 6 inch, 1 defect over 6 inch but less than 9 inch, 1 defect over 9 inch. The defect points/100 yd² is given by
- 11.9
 - 10
 - 15.3
 - 7