

Sl. No. :



CETET/18

Register
Number

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2018

TEXTILE TECHNOLOGY
(Degree Standard)

Time Allowed : 3 Hours]

[Maximum Marks : 300

Read the following instructions carefully before you begin to answer the questions.

IMPORTANT INSTRUCTIONS

1. The applicant will be supplied with Question Booklet 15 minutes before commencement of the examination.
2. This Question Booklet contains 200 questions. Prior to attempting to answer the candidates are requested to check whether all the questions are there in series and ensure there are no blank pages in the question booklet. **In case any defect in the Question Paper is noticed it shall be reported to the Invigilator within first 10 minutes and get it replaced with a complete Question Booklet. If any defect is noticed in the Question Booklet after the commencement of examination it will not be replaced.**
3. Answer all questions. All questions carry equal marks.
4. You must write your Register Number in the space provided on the top right side of this page. Do not write anything else on the Question Booklet.
5. An answer sheet will be supplied to you, separately by the Room Invigilator to mark the answers.
6. You will also encode your Question Booklet Number with Blue or Black ink Ball point pen in the space provided on the side 2 of the Answer Sheet. If you do not encode properly or fail to encode the above information, action will be taken as per commission's notification.
7. Each question comprises four responses (A), (B), (C) and (D). You are to select ONLY ONE correct response and mark in your Answer Sheet. In case you feel that there are more than one correct response, mark the response which you consider the best. In any case, choose ONLY ONE response for each question. Your total marks will depend on the number of correct responses marked by you in the Answer Sheet.
8. In the Answer Sheet there are four circles (A), (B), (C) and (D) against each question. To answer the questions you are to mark with Blue or Black ink Ball point pen ONLY ONE circle of your choice for each question. Select one response for each question in the Question Booklet and mark in the Answer Sheet. If you mark more than one answer for one question, the answer will be treated as wrong. e.g. If for any item, (B) is the correct answer, you have to mark as follows :

(A) ● (C) (D)
9. You should not remove or tear off any sheet from this Question Booklet. You are not allowed to take this Question Booklet and the Answer Sheet out of the Examination Hall during the time of examination. After the examination is concluded, you must hand over your Answer Sheet to the Invigilator. You are allowed to take the Question Booklet with you only after the Examination is over.
10. The sheet before the last page of the Question Booklet can be used for Rough Work.
11. Do not tick-mark or mark the answers in the Question Booklet.
12. Applicants have to write and shade the total number of answer fields left blank on the boxes provided at side 2 of OMR Answer Sheet. An extra time of 5 minutes will be given to specify the number of answer fields left blank.
13. Failure to comply with any of the above instructions will render you liable to such action or penalty as the Commission may decide at their discretion.

SEAL

SPACE FOR ROUGH WORK

01103008



1. For a fibre, when the moisture regain increases, the thermal conductivity
- (A) increases
 - (B) decreases
 - (C) initially increases and then decreases
 - (D) initially decreases and then increases
2. The effect of second order transition temperature in polyester fibre in
- (A) reduction in birefringence
 - (B) increase in birefringence
 - (C) increase in absorption of water
 - (D) increase in stiffness
3. The melting point of polyester is
- (A) higher than acetate
 - (B) lower than polyethylene
 - (C) higher than polyethylene but lower than nylon
 - (D) higher than wool and lower than viscose rayon
4. Among the following fibre which one is having serrated cross section?
- (A) cotton
 - (B) silk
 - (C) viscose
 - (D) kapok
5. The major part of the cotton fibre is covered by
- (A) Primary wall
 - (B) S₃ layer only
 - (C) Secondary cell wall
 - (D) Lumen
6. A fibre which is soluble in acetic acid in 2 minutes at boiling point in
- (A) cotton
 - (B) silk
 - (C) wool
 - (D) acetate

7. The first successful synthetic fibre is
- (A) polyester (B) nylon
(C) acrylic (D) polypropylene
8. Refractive index is the ratio of velocity of light in _____ to the velocity of light in _____.
- (A) material and vacuum (B) vacuum and material
(C) atmospheric space to material (D) material to atmospheric space
9. Triacetate has negative birefringence value because of
- (A) isotropic arrangement of polymerchains
(B) bulks acetate groups
(C) anisotropic arrangement of polymerchains
(D) thin acetate groups
10. Birefringence values of Poly Ethylene Teraphthalate (PET) fibre is
- (A) 0.0188 (B) 0.188
(C) 1.88 (D) 18.8
11. For showing dichroism, which one of the following condition is to be satisfied?
- (A) the dye molecule must be asymmetrical
(B) the dye molecule must be symmetrical
(C) the dye molecule should not absorbed by the fibre
(D) the orientation of chain molecules should be poor
12. Among the following, which fibre is having negative birefringence value?
- (A) Ramie (B) Triacetate
(C) Polyester (D) Polyethylene

13. The decomposition temperature of viscose is
- (A) higher than cotton
 - (B) lower than cotton
 - (C) lower than cotton but higher than wool
 - (D) higher than cotton but lower than wool
14. The static change on card sliver after lending is measured by
- (A) Shirley moisture meter
 - (B) Tog meter
 - (C) Faraday cylinder
 - (D) Galvanometer
15. The electrical resistance of protein fibres are
- (A) lower than cellulosic fibres
 - (B) higher than cellulosic fibres
 - (C) equal to cellulosic fibres
 - (D) equal to synthetic fibres
16. Ratio of dry strength to wet strength of viscose rayon fibre is
- (A) 0.5
 - (B) 2
 - (C) 4
 - (D) 0.25
17. Bending and bursting of fibre influences _____ properties of fabrics.
- (A) Drape and Handle
 - (B) Frictional
 - (C) Electrical
 - (D) Optical
18. 27 mm fibre was extended to 30 mm and upon relaxation it reached to 27.2 mm. Its elastic recovery % is
- (A) 0.666
 - (B) 6.66
 - (C) 93.3
 - (D) 9.33

19. The ripeners of viscose solution is measured by
 (A) Salt index (B) Xanthation ratio
(C) Bireference (D) Sonic modulus
20. Line of breaking force across the fibre would be long for _____ polymer molecules.
(A) randomly aligned long (B) perfectly aligned short
 (C) perfectly aligned long (D) randomly aligned linear
21. Which one of the following is not a fibre forming polymer?
 (A) A tactic polypropylene (B) Isotactic polypropylene
(C) Syndeotactic polypropylene (D) Polyethylene terephthalate
22. One way mass transfer of solvent occurs in
 (A) dry spinning (B) wet spinning
(C) dry-jet wet spinning (D) melt spinning
23. The humidity has a significant influence on drawing of one of these synthetic fibres. The fibre is
 (A) Nylon 6 (B) PET
(C) Polypropylene (D) Polyethylene
24. The crimps are introduced in PET staple fibre by
 (A) stuffer box texturising (B) edge crimping
(C) false twist texturising (D) chemo texturising
25. The fibre which is very difficult to texture by false twist texturising is
(A) polyester (B) nylon 6
(C) nylon 66 (D) polypropylene

26. The high drips in melt spinning occurs due to
- (A) low quench air velocity (B) improper sand size
 (C) die swell (D) draw resonance
27. The rapid quenching of nylon 6 from molten state results in
- (A) α form (B) β form
 (C) γ form (D) pseudo hexagonal form
28. _____ fibre undergoes cyclization reaction before reaching its melting point.
- (A) Acrylic (B) Polyurethane
 (C) Polylactic acid (D) Cotton
29. The best feeder yarn for good crimpability and refractivity in false twist texturing is
- (A) LOY (B) POY
 (C) FDY (D) HDY
30. The cross-section of spinneret used for producing hollow fibre is
- (A) C-shaped (B) Rectangular
 (C) Annular concentric (D) Triangular
31. Identify the fibre with negative glass transition temperature
- (A) polyethylene (B) nylon-6
 (C) polyester (D) poly acrylonitrile
32. The Diethylene glycol formation is maximum during _____ stage in PET synthesis.
- (A) poly condensation (B) trans esterification
 (C) monomer synthesis (D) granule formation

33. In which spinning system, twisting of fibres in yarn making process taken place from the inside outwards?
- (A) Ring spinning (B) Rotor spinning
(C) Wrap spinning (D) Airjet spinning
34. Which part of the ring spinning machine imparts twist to the yarn?
- (A) spindle (B) traveller
(C) lappet thread guide (D) ring rail
35. Bolster is a part of
- (A) spindle in ring frame (B) flyer in roving frame
(C) creel in ring frame (D) drafting system in ring frame
36. For a strongly twisted roving, what is the range of break draft to be given in the ring spinning process?
- (A) 1.1-1.4 (B) 1.14-1.25
 (C) 1.3-1.5 (D) 1.4-2.0
37. The range of break draft given in roving process is
- (A) 0.5-0.7 (B) 1.05-1.15
(C) 5-10 (D) 100-150
38. What is the range of over all draft of a comb drafting system?
- (A) 2-5 (B) 9-18
(C) 25-35 (D) 40 and above

39. The condition for lending disposition is
- (A) $v_1 < v_2$, v_2 must be in the opp. direction of v_1
 - (B) $v_1 > v_2$, v_2 must be in the opp. direction of v_1
 - (C) $v_2 = v_1$, v_2 must be in the opp. direction of v_1
 - (D) independent with v_1 and v_2

where v_1 = flats/doffer, v_2 = cylinder

40. Calculate the dtex value for cotton fibre of fineness value of 4.
- (A) dtex = $4 / 0.394$
 - (B) dtex = 4×0.394
 - (C) dtex = $4 \times (0.394)^2$
 - (D) dtex = $4 / (0.394)^2$

41. In case of automatic winding machine, theoretically maximum number of spindles per knotter is depends on
- (A) speed of the machine
 - (B) count of the yarn
 - (C) strength of the yarn
 - (D) skill of the operator

42. In case of tappet shedding looms, which of the following type of heald movement is preferred for high speed looms
- (A) parabolic and simple harmonic
 - (B) parabolic and cyclodial
 - (C) polynomial and cyclodial
 - (D) polynomial and simple harmonic

43. The increase in sley eccentricity value in shuttle loom
- (A) increases the shuttle speed
 - (B) increases the cost of the loom
 - (C) decreases the width of the loom
 - (D) decreases the vibration in the loom

44. Climax dobbie is _____ dobbie.
- (A) single lift single jack
 - (B) double lift single jack
 - (C) single lift double jack
 - (D) double lift double jack

45. In multiphase weaving machine warp sheet is formed by
(A) Heald shaft (B) Rotating weaving rotor
(C) Tappet (D) Jacquard
46. In a random winding machine, tension device is positioned _____ the yarn clearer.
(A) above (B) after
(C) before (D) below
47. Ratio of length of yarn in the winding and binding layers in a pirn
(A) >1 (B) <1
(C) 1 (D) 0.5
48. When size concentration is 40% wet pickup 60% warp sheet oven dry mass of 450 kg passed through size box, determine the size add-on.
(A) 12 (B) 24
(C) 18 (D) 30
49. A fabric woven from a shuttle less loom with 70 picks/min. The loom runs at a speed of 400 picks/min with 87% loom efficiency. The product of fabric in length (meter) per shift of 8 hours is
(A) 66.6 (B) 60.6
(C) 30.3 (D) 32.3
50. The propelling force in the weft carrying system in airjet is enacted by
(A) airjets kept at both the ends
(B) multiple airjets kept along the pathway of weft
(C) air-propulsion at one end and air suction at other ends
(D) air propulsion and air suction at both the ends

51. The wheatstone bridge network of strain gauges in the load cell is excited from an oscillator at a frequency of

- (A) 375 C/S (B) 300 C/S
(C) 275 C/S (D) 325 C/S

52. The minimum number of tests and length of test specimen (in) for Grey yarn (single) spun from long bast fibres is _____ and _____

- (A) 20 and 10 (B) 20 and 5
 (C) 50 and 10 (D) 50 and 1

53. Specific surface of a fibre is

- (A) $\frac{2}{d}$ (B) $\frac{4}{d}$
(C) $\frac{\pi d}{4}$ (D) $\frac{4}{\pi d}$

54. In _____ type of sample every individual in the population has an equal chance of being included in it

- (A) Biased sample (B) Random sample
(C) Squaring technique (D) Zoning technique

55. In the context of Kawabata evaluation system, match the fabric properties from Group I with the units from Group II

Group I		Group II	
(a) Tensile energy		1. $\text{gt. cm}^2/\text{cm}$	
(b) Linearity of load – elongation curve		2. Percentage	
(c) Bending rigidity		3. gt cm/cm^2	
(d) Compressional resilience		4. Dimensionless	

- | | | | |
|---|-----|-----|-----|
| (a) | (b) | (c) | (d) |
| (A) 1 | 4 | 3 | 2 |
| <input checked="" type="checkbox"/> (B) 3 | 4 | 1 | 2 |
| (C) 2 | 4 | 1 | 3 |
| (D) 3 | 1 | 4 | 2 |

56. In the fast system, the fabric formability is determined by the product of fabric
- (A) Bending rigidity and extension
 - (B) Bending rigidity and thickness
 - (C) Bending rigidity and weight
 - (D) Bending rigidity and cover factor
57. Which of the following fabric strength property is analysed by bursting strength tester?
- (A) Terry fabric
 - (B) Filter fabric
 - (C) Carpet fabric
 - (D) Silk fabric
58. The fabric test length in case of strip test is
- (A) 6 inches
 - (B) 8 inches
 - (C) 10 inches
 - (D) 12 inches
59. In which of the following tensile testing equipment, the error percentage due to friction is completely eliminated?
- (A) Tester working under inclined plane principle
 - (B) Tester working under spring principle
 - (C) Tester working under balance principle
 - (D) Tester working under strain gauge principle
60. Which of the following tensile testing equipment works under pendulum lever principle?
- (A) Stelometer
 - (B) Pressley strength tester
 - (C) Cambridge extensometer
 - (D) Instron tensile tester
61. What is the twist factor of 64 tex yarn having 32 turns per meter?
- (A) 4
 - (B) 26
 - (C) 98
 - (D) 256

62. Transfer printing of polyester belongs to
- (A) Resist style (B) Discharge style
(C) Colour discharge style (D) Direct style
63. Continuous dyeing machine
- (A) Jigger machine (B) Soft flow machine
(C) Winch machine (D) Padding mangle machine
64. Poor rubbing fastness is associated with cotton and _____ dye combinations.
- (A) Direct (B) Reactive
 (C) Vat (D) Bifunctional
65. The efficiency of mercerisation is determined by
- (A) Methylene blue number (B) Copper number
(C) Iodine test (D) Barium activity number
66. The neutralisation of fabric using acid after bleaching is called
- (A) Scouring (B) Souring
(C) Antichlor (D) Reduction clear
67. The dye which is water insoluble is
- (A) Direct dye (B) Reactive dye
(C) Acid dye (D) Vat dye

68. 'Condensed phase' mechanism of flame retardancy is achieved with
- (A) Phosphorous containing flame retardants
 - (B) Aluminium trihydrate and calcium carbonate based fillers
 - (C) Boric acid based salts
 - (D) Halogen based flame retardants
69. An undyed fabric finished with cationic softener shows yellowing effect. It is due to
- (A) Oxidation of the softener
 - (B) Volatility of the softener
 - (C) Poor emulsion stability
 - (D) Thermo migration of dyes
70. A severe tendering and disintegration of fabric occurred after sodium hypochlorite bleaching. This may be due to
- (A) traces of iron and copper present in cotton
 - (B) action of stabilizer
 - (C) action of buffer
 - (D) action of salts
71. The bioscouring of cotton can be carried out mostly by
- (A) Alkaline pectinase
 - (B) Acidic cellulase
 - (C) Neutral cellulase
 - (D) Amylase
72. Among the following bleaching agents, bleaching of cotton is carried out in acidic condition for
- (A) Calcium hypochlorite
 - (B) Sodium hypochlorite
 - (C) Sodium chlorite
 - (D) Hydrogen peroxide

73. Which of the following relation is used to calculate the tightness factor value of weft knit fabric?
- (A) loop length in cm/ $\sqrt{\text{tex}}$
 (B) loop length in cm/tex
 (C) $\sqrt{\text{tex}}$ / loop length in cm
 (D) tex / loop length in cm
74. Invisible fleecy fabric is a _____ fabric.
- (A) Single jersey (B) Double jersey
 (C) Flat knit (D) Warp knit
75. The purpose of 'splice mark' on the spreading table is
- (A) to regulate the thickness of the lay
 (B) to regulate the width of the fabric
 (C) to indicate the faults in the fabric
 (D) to indicate the joining point of the fabrics
76. Notcher is one of the
- (A) Pattern making tool (B) Lay cutting tool
 (C) Marking tool (D) Fabric spreading tool
77. Which of the following stitch class is used for 'baisting' operation?
- (A) lock stitch (B) chain stitch
 (C) multi thread chain stitch (D) over edge chain stitch
78. 'Over-lock welting' type of over edge chain stitch is formed by the combination of
- (A) one needle and one looper thread
 (B) one needle and two looper thread
 (C) two needle and one looper thread
 (D) two needle and two looper thread

79. Which of the following is not the part of line planning process?
- (A) Evaluating merchandise mix
 - (B) Planning merchandise budget
 - (C) Determining the styles in the line
 - (D) Analysing and cydating merchandising plan
80. It is used to get fancy effects by using coloured yarns
- (A) Tuck stitch
 - (B) Float stitch
 - (C) Purl stitch
 - (D) Knit stitch
81. Analyzing technical design of an apparel is one of the activities of
- (A) Line planning
 - (B) Line development
 - (C) Line presentation
 - (D) Line loading
82. Perceptual mapping is a diagrammatic technique used by asset markets that attempt to visually display the perceptions of _____ customers.
- (A) Need
 - (B) Potential
 - (C) Selecting
 - (D) Varying
83. Temporary silicone finishing of fabric is important for
- (A) Pedalling type sewing machine
 - (B) Motor driven low speed sewing machine
 - (C) Motor driven high speed sewing machine
 - (D) Pedalling type high speed sewing machine
84. Single thread chain stitch belongs to class
- (A) 100
 - (B) 200
 - (C) 300
 - (D) 400

85. Nonwoven web from cotton fibres can be preferably formed by _____ bonding methods.
- (A) Thermal and mechanical
 - (B) Mechanical and chemical
 - (C) Thermal and chemical
 - (D) Mechanical and Interlacement
86. 90 complete to and fro strokes over 40 inch width is made by a cross – lapper in one minute while the delivery lattice speed is maintained at 7m/min. If the hank of the feed lap is 0.0013 Ne and the actual draft of the cross-lapper carding machine is 103, then the g/m² of the non woven web formed is
- (A) 114
 - (B) 111
 - (C) 124
 - (D) 134
87. The major limitation of poly chloropene binders
- (A) Crystallisation there by increasing the stiffness
 - (B) Not resistant to acids
 - (C) Undergo discoloration
 - (D) Poor weather resistant
88. The most preferred polymer to be deployed for extrusion coating of nonwovens with water resistant barrier and heat sealing properties is
- (A) LDPE
 - (B) HOPE
 - (C) HMWPE
 - (D) PP
89. For wipes, the preferred bonding is
- (A) needle punching
 - (B) spray bonding
 - (C) bulk calendering
 - (D) lamination

90. The mechanism by which particles are captured through attachment to the fibres within the body of filter medium due to electrostatic forces is
- (A) screening (B) depth filtration
 (C) cake filtration (D) sieve filtration
91. In case of basal embankment, the major factor to be considered is
- (A) stress relaxation (B) fatigue
 (C) mechanical conditioning (D) creep
92. ^o_L 90 in case of testing of Geotextiles relate to
- (A) holes in textile substrate (B) diameter of particles
 (C) velocity of air used for testing (D) penetration efficiency
93. Hot gas filtration of around 1000°C can be carried out using _____ fibres.
- (A) Polypropylene (B) Polyethylene
 (C) Ceramic (D) Polyester
94. On impact, the full deployment of air bag takes
- (A) 55 milliseconds (B) 55 seconds
 (C) 0.5 milliseconds (D) 5 milliseconds
95. One of the most popular instrument for single fibre measurement is
- (A) Shirley comb sorter (B) B.F.T sorter
 (C) Reynolds and Branson tester (D) W.I.R.A. crimp tester
96. The dead weight suspended from the end of the bottom loop of the coupling to keep the harness pulled down when not required to be raised is called a
- (A) Lingo (B) Griffe
 (C) Grate (D) Jug board

97. In costing, prime cost is defined as
- (A) Direct material cost + direct labour cost + direct expenses
 - (B) Direct material cost + direct labour cost
 - (C) Direct material cost + direct expenses
 - (D) Direct material cost – direct labour cost + direct expenses
98. It deals with recording the time and rate of working under specific conditions
- (A) Method study
 - (B) Work sampling
 - (C) Predetermined time standard
 - (D) Time study
99. Advertisement cost is an example for _____overheads.
- (A) Factory
 - (B) Administrative
 - (C) Selling and distribution
 - (D) (A) and (B)
100. The technological aspect in a textile industry is an example for _____ in TQM axioms.
- (A) Commitment
 - (B) Involvement
 - (C) Scientific knowledge
 - (D) Motivation
101. It deals with behavioral issues as well as technical issues is an industry
- (A) supply chain management
 - (B) management information system
 - (C) business process reengineering
 - (D) quality control circle
102. The consumers may share a strong need that cannot be satisfied by an existing product is called _____ demand.
- (A) Negative
 - (B) Non-existent
 - (C) Latent
 - (D) Decline

103. The two important natural protein fibres are _____ and _____.

- (A) cotton and jute (B) silk and cotton
 (C) wool and silk (D) wool and casein

104. First order transition temperature of Nylon 6,6 fibre is

- (A) 40°C (B) 80°C
(C) 230°C (D) 260°C

105. XRD photograph of a cotton fibre would be having

- (A) sharp spots (B) slightly diffused rings
 (C) slightly diffused broken rings (D) diffused

106. Convolution in cotton fibre is because of

- (A) fibrils (B) primary wall
 (C) cell sap evaporation (D) fibre degradation

107. Fibre that is soluble in 80% formic acid

- (A) Acrylic (B) Poly Ethylene Terephthalate (PET)
 (C) Nylon (D) Cotton

108. Fine structure model of viscose rayon fibre is

- (A) fibrillar (B) fringed fibrillar
(C) micellar (D) fringed micellar

109. Jute fibre is classified as natural cellulosic _____ fibre.

- (A) bast unicellular (B) bast multicellular
(C) leaf unicellular (D) leaf multicellular

110. The density of asbestos is
- (A) lower than cotton
 - (B) higher than polyester but lower than cotton
 - (C) higher than cotton
 - (D) higher than cotton and glass
111. The wave length of the electrons used in electron microscopy is
- (A) 10 Å
 - (B) 5 Å
 - (C) 1 Å
 - (D) 0.05 Å
112. In a fibre, the length of the micro fibrils is
- (A) 1 μ
 - (B) 0.1 μ
 - (C) 100 Å
 - (D) 0.1 Å
113. The orientation factor of Ramie fibre is
- (A) 0.54
 - (B) 0.88
 - (C) 0.74
 - (D) 0.97
114. The proportion of non crystalline regions of the native cellulose is
- (A) one fourth of the total in native cellulose
 - (B) one third of the total in native cellulose
 - (C) half of the total in native cellulose
 - (D) three fourth of the total in native cellulose
115. Among the following, which one of the fibre is completely crystalline?
- (A) cotton
 - (B) nylon
 - (C) glass
 - (D) asbestos

116. Birefringence of a fibre is determined by measuring the
- (A) refractive index along the fibre axis
 - (B) two principal refractive indices
 - (C) refractive index across the fibre axis
 - (D) refractive indices of x, y and z axis
117. When a fibre was subjected to 10% elongation, it developed a load of 120 gram-force. However, the load decreased with time through the fibre was held in the extended position. The cause for such decrease in load is because of _____ and the property is regarded as _____.
- (A) molecular stress and stress relaxation
 - (B) molecular readjustment and stress relaxation
 - (C) molecular stress and creep
 - (D) molecular readjustment and creep
118. Static charge development in textile fibres can be overcome by
- (A) decreasing electrical conductivity
 - (B) decreasing humidity
 - (C) increasing disorder
 - (D) increasing electrical conductivity
119. The second order transition temperature of polyester is
- (A) -5°C
 - (B) 50°C
 - (C) 70°C
 - (D) 100°C
120. The moisture absorbing fibres cannot be heat set, because
- (A) the bond between the molecules are very strong
 - (B) the cross links between the molecules cannot be broken
 - (C) the cross links between the molecules are broken and reformed on the wetting and drying of fibres
 - (D) the melting point is very high

121. When the fibre is tested in standard conditions, the tenacity in g-wt/tex of cotton fibre is
- (A) higher than flax
 - (B) lower than flax but higher than jute
 - (C) lower than acetate
 - (D) higher than flax but lower than jute
122. Which one of the following statement is suitable for bast fibres when compared with cotton fibre?
- (A) poor recovery from strain and it can withstand large stress
 - (B) good recovery from strain and it can withstand small stress
 - (C) poor recovery from strain and it can withstand small stress
 - (D) good recovery from strain and it can withstand large stress
123. After recovery by the first test to measure creep, if the same load is applied again to a fibre, the rate of creep is
- (A) similar to the first test
 - (B) less than the first test of the specimen
 - (C) greater than the first test of the specimen
 - (D) equal to secondary creep
124. The torsional rigidity of a fibre can be obtained in terms of
- (A) tensile modulus
 - (B) shear modulus
 - (C) bending modulus
 - (D) specific stress
125. The neutral comonomer in acrylic polymer is
- (A) Methyl acrylate
 - (B) Sodium allyl sulphonate
 - (C) Sodium methallyl sulphonate
 - (D) Itaconic acid

126. Which one of the following is mechanical texturing process?
- (A) False twist texturing (B) Simultaneous draw texturing
 (C) Sequential draw texturing (D) Air Jet texturing
127. The process of drawing of as-spun filaments to impart orientation is typically carried out at temperatures
- (A) above glass transition (B) below T_g
 (C) near melting point (T_m) (D) at crystallization temperature
128. In the context of application at spin finish to synthetic fibres, the incorrect statement among the following is
- (A) spin finish dissipates static charge
 (B) spin finish reduces fibre breakage in carding
 (C) spin finish reduces the stiffness of the fibre
 (D) spin finish reduces the nap generation tendency in fibres
129. Which one of the following increases on increasing water concentration (catalyst) during nylon 6 polymerisation?
- (A) molecular weight (B) time of polymerisation
 (C) end groups (D) rate of polymerisation
130. In case of melt spinning, if W is the mass through put rate, ρ_0 is the density of melt, d_0 is the spinnerette hole diameter n is the number of filaments, the average extrusion velocity (v_0) is given by expression
- (A) $v_0 = \frac{4W}{n\rho_0\pi d_0^2}$ (B) $v_0 = \frac{4\rho_0}{nW\pi d_0^2}$
 (C) $v_0 = \frac{4d_0^2}{nW\pi\rho_0}$ (D) $v_0 = \frac{4\rho_0 n}{W\pi d_0^2}$

131. For producing a coarse count yarn from short staple trashy cotton sliver, the most suitable rotor is
- (A) large diameter rotor with narrow groove
 - (B) small diameter rotor with wide groove
 - (C) small diameter rotor with narrow groove
 - (D) large diameter rotor with wide groove
132. 35 Kg raw cotton is mixed with 65 kg polyester in the blow room feed. If the raw cotton contained 6.5% trash which was removed completely in the blow room and carding process, the % blend proportion of cotton and polyester in the carding sliver is
- (A) 60% and 30%
 - (B) 30% and 60%
 - (C) 67% and 33%
 - (D) 33% and 67%
133. In ring spinning, the tension in yarn is the maximum
- (A) In winding zone
 - (B) Where the balloon radius is the maximum
 - (C) Just below the lappet guide
 - (D) Between the lappet guide and front roller
134. The draft in the roving frame is about
- (A) 100
 - (B) 10
 - (C) 3
 - (D) 30
135. In a 3 over 3 drafting system, the ratio of the nip to nip distance between middle rollers to back rollers and middle rollers to front rollers would be
- (A) >1
 - (B) <1
 - (C) 1
 - (D) 0.5
136. Ratio of mechanical draft to theoretical draft would be
- (A) >1
 - (B) <1
 - (C) 1
 - (D) 0.5

137. How much noil% is increased when the depth of the top comb penetration is about 0.5 mm?
- (A) 2% (B) 4%
- (C) 6% (D) 10%
138. In a rectilinear comber, when the nippers are open, the length of lap feed by the feed roller is between _____ and _____.
- (A) 4 cm, 6.5 cm (B) 4 mm, 6.5 mm
- (C) 10 mm, 12.5 mm (D) 10 cm, 12.5 cm
139. Among the following which one is more soft with respect to top roller's degree of shore hardness?
- (A) 60°-70° (B) 70°-80°
- (C) 70°-90° (D) above 90°
140. Which one of the following is the additional effect of draft?
- (A) neps formation (B) straightening of fibre hooks
- (C) fibre entanglement (D) fibre breakage
141. In a yarn cross section, the number of fibres (n) are equal to
- (A) $\text{Tex}_{\text{yarn}}/\text{Tex}_{\text{fibre}}$ (B) $\text{Tex}_{\text{fibre}}/\text{Tex}_{\text{yarn}}$
- (C) $\text{Tex}_{\text{fibre}} \times \text{Tex}_{\text{yarn}}$ (D) $(\text{Tex}_{\text{yarn}}/\text{Tex}_{\text{fibre}})^2$
142. The intimate blending can be obtained by
- (A) lap blending (B) web blending
- (C) sliver blending (D) fibre blending

143. In _____ Jacquard, all the warp threads reaches the bottom of the shed on every pick.
- (A) single lift, single cylinder (B) double lift, single cylinder
 (C) double lift, double cylinder (D) open shed
144. In case of automatic yarn clearing machine, clearing efficiency (CE) is defined as
- (A) $CE = \frac{\text{Number of faults detected in the yarn}}{\text{Total number of faults in the yarn}} \times 100$
- (B) $CE = \frac{\text{Number of objectionable faults detected in the yarn}}{\text{Total number of faults in the yarn}} \times 100$
- (C) $CE = \frac{\text{Number of objectionable faults detected in the yarn}}{\text{Total number of objectionable faults in the yarn}} \times 100$
- (D) $CE = \frac{\text{Number of faults detected in the yarn}}{\text{Total number of objectionable faults in the yarn}} \times 100$
145. In a tex system, if the change in mass is 100%, what will be the approximate change in diameter?
- (A) 20% (B) 30%
 (C) 40% (D) 50%
146. The draft plan in woven fabric design analysis indicates
- (A) Interlacement of warp and weft
 (B) Order of drawing warp through reed
 (C) Number of heald shaft required for weaving
 (D) Number of weft per design repeat
147. Which of the following statement is not correct with respect to crepe weave woven fabrics?
- (A) High twist yarn is used
 (B) They have prominent twill effect
 (C) Fabric surface is not smooth
 (D) They formed by insertion of one weave over other weave

148. Jute sacks in tubular form are produced from
- (A) narrow loom (B) tape loom
(C) spacer machine (D) circular loom
149. In a twill fabric, the rate of achievement of twill upwards is 2, rate of advancement of twill outwards is 1, ends per cm is 42 and picks per cm is 21. Calculate the twill angle.
- (A) 45° (B) 11°
 (C) 76° (D) 60°
150. The weave that produces perforated fabrics and distorted thread effects is
- (A) Huck-a-lack weave (B) Basket weave
(C) Hopsack weave (D) Mock leno weave
151. The mechanism which stops the loom when the shuttle fails to reach the shuttle box (or) shuttle trap in the warp shed is known as
- (A) shuttle checking mechanism
(B) warp stop motion
(C) weft protector mechanism
 (D) warp protector motion
152. The power required to drive a loom working on open shed principle is less, because
- (A) heald weight is less
(B) speed is maximum
(C) used only for simple weaves
 (D) unnecessary movement of the threads are avoided

153. Ratio of grab strength to strip strength is the highest when fabric extension (%) is
- (A) 0 (B) 5
(C) 10 (D) 15
154. A 225 denier viscose yarn has a breaking strength of 7.5N. The yarn tenacity in CN/dtex is
- (A) 1 (B) 10
 (C) 3 (D) 30
155. Which of the following fabric is used for air bag applications at the driver side?
- (A) 25 × 25 twill weave polyester fabric
 (B) 46 × 46 plain weave Nylon 6, 6 fabric
(C) 25 × 25 rip stop Nylon 6, 6 fabric
(D) 41 × 41 plain weave polyester fabric
156. The property of fibres that AFIS does not measure is
- (A) Fibre length (B) Fibre maturity
 (C) Short fibre index (D) Nep content
157. The vibroscope method for determination of fibre fineness does not take into account of specimen
- (A) Natural frequency (B) Tensile strength
(C) Tension (D) Length
158. Sample selection for testing requires
- (A) Biased approach to meet population mean
 (B) Random approach to meet population mean
(C) Random approach to not to meet population mean
(D) Biased approach to not to meet population mean

159. A group of cotton fibres were selected for maturity test and the results are 64% rod like fibres, 14% dead fibres. Calculate the percent of thin walled fibres.
- (A) 50% (B) 22%
 (C) 36% (D) 14%
160. In general, the floating fibre percentage in the drafting systems is calculated from the _____ data.
- (A) Shirley comb sorter (B) Sledge sorter
 (C) Schlumberger comb sorter (D) Digital fibro graph
161. In sampling process, the relationship between standard error of the mean (SEM) and the standard deviation of the population (SDP) is
- (A) $SEM = \frac{SDP}{n}$ (B) $SEM = \frac{SDP}{\sqrt{n}}$
 (C) $SEM = \frac{n}{SDP}$ (D) $SEM = \frac{\sqrt{n}}{SDP}$
162. The zoning sampling method is used to determine
- (A) Properties of sliver (B) Properties of fibre
 (C) Properties of yarn (D) Properties of fabric
163. Levoglucosan is related to _____ finish.
- (A) Antistatic (B) Crease resistant
 (C) Fire retardant (D) Soil release
164. Reactive printing of cotton uses
- (A) Na_2CO_3 (B) $NaClO$
 (C) $NaClO_2$ (D) $NaClO_3$

165. According to K-M theory, the concentration of dye in fabric is directly proportional to [R-Reflectance from sample]

(A) R

(B) $(1 - R)^2 / 2R$

(C) $\frac{1}{R}$

(D) $\frac{2R}{(1 - R)^2}$

166. Nylon/Wool blends are often dyed with

(A) Milling type acid dye

(B) Bifunctional reactive dye

(C) Hetero functional reactive dye

(D) Homo functional reactive dye

167. _____ is used as reducing agent in vat dyeing.

(A) Sodium hydrosulphite

(B) Sodium hypochlorite

(C) Sodium chlorite

(D) Sodium bromite

168. Which one of the following is not true about acid dyes?

(A) Acid dyes are sodium salts of organic acid

(B) Acid dyes have affinity to protein fibres

(C) Glauber salt is used as levelling agent during acid dyeing

(D) Acid dyes are relatively difficult to dissolve in water

169. _____ is the measure of strength of bonds by which dye is held to the fibre

(A) Heat of dyeing

(B) Entropy of dyeing

(C) Half dyeing time

(D) Chemical potential

170. The most commonly used discharging agent is
- (A) formaldehyde sulphoxalates
 - (B) sodium dichromate
 - (C) potassium dichromate
 - (D) glycerine
171. Which one of the following transfer printing is more preferred for garment panel units?
- (A) sublimation transfer
 - (B) melt transfer
 - (C) film release
 - (D) wet transfer
172. Which of the following statement is true for a rib knitting machine that works under delayed timing?
- (A) Cylinder needle first comes to the feeding position
 - (B) Both cylinder and dial needle simultaneously reaches the feeding position
 - (C) Dial needle first reaches the knock-over position
 - (D) Both dial and cylinder needle simultaneously reaches the knock over position
173. The knit fabric with tuck stitches is _____ then the knit fabric with knit stitches only.
- (A) Thinner
 - (B) Wider
 - (C) Less porous
 - (D) Highly extensible
174. Knitting needles with different butt sizes are used in circular knitting machine having
- (A) Swing cam
 - (B) Multi cam
 - (C) Split cam
 - (D) Pattern drum

175. The width of the long groove in the sewing needle is _____ of blade diameter.

- (A) 15% (B) 30%
 (C) 45% (D) 60%

176. In single needle lock stitch machine, the preferred feed-dog tooth pitch for sewing medium weight fabric is

- (A) 1 mm (B) 1.5 mm
(C) 2 mm (D) 2.5 mm

177. In double needle lock stitch machine, the feed dog has _____ motion.

- (A) Circular
 (B) Elliptical
(C) Lateral
(D) Up and down

178. Majority of sewing machine prefers 'Z' twist yarns than 'S' twist yarns because

- (A) they have high strength
(B) they are highly flexible
(C) they have high elongation
 (D) they don't lose twist

179. One of the limitations of polyester wrapped cotton core spun thread is

- (A) poor elasticity
(B) high cost
(C) low work of rupture
 (D) high needle heat generation

180. Requirements of technical fabrics for soil mat are
- (A) weather resistance, opaque to sunlight and insects entry restriction
 - (B) weather resistance, water impermeability and retention properties
 - (C) water penetration and retention properties and durability
 - (D) weather resistance, sunlight transparency, water impermeability
181. Widely used fibres in geotextile applications are.
- (A) Polypropylene and Polybutylene
 - (B) Polyethylene and Polybutylene
 - (C) Polypropylene and Polyethylene
 - (D) Polyethylene and Polyvinyl alcohol
182. Cyclic loading performance of a technical fibre depends on
- (A) Elasticity
 - (B) Elasticity at break
 - (C) Elasticity at low extension
 - (D) Elasticity even at high extension
183. Tensile strength of Ultra High Molecular Weight Polyethylene (UHMWPE) in gram per denier is approximately
- | | |
|--|---------|
| (A) 0.55 | (B) 5.5 |
| <input checked="" type="checkbox"/> (C) 55 | (D) 555 |
184. Enduse property that is preferred from nonwovens
- | | |
|--|--------------------------|
| <input checked="" type="checkbox"/> (A) Absorbency | (B) Thermal conductivity |
| (C) Strength | (D) Density |

185. In calendering process, if the contact area is 30 mm^2 and the production speed is 300 m/min . The estimated contact line is
- (A) 0.6 millisecc (B) 0.06 millisecc
 (C) 0.006 millisecc (D) 6 millisecc
186. For the given fibres, heavily entangled fabrics can be produced by hydro entanglement at low pressure and energy for
- (A) viscose (B) glass
 (C) carbon (D) polypropylene
187. In case of needle punching, the punch density is calculated using
 [P_d – punch density, n_n = number of needles per cm, P = fabric production speed, S_f = punch frequency]
- (A) $P_d = \frac{n_n \times s_f}{P}$ (B) $P_d = \frac{n_n \times P}{s_f}$
 (C) $P_d = \frac{n_n}{s_f \times P}$ (D) $P_d = \frac{P \times s_f}{n_n}$
188. Which one of the following statements is 'Incorrect' about fibre dispersing behavior in wet lay system?
- (A) The dispersing property of fibres deteriorate with an increase in the fibre fineness ratio
 (B) The dispersing property deteriorate with decrease in fibre stiffness
 (C) Fibres which are non crimped form homogenous suspension
 (D) Wettability of fibres in liquid medium does not influence dispersion
189. The type of reinforcement in which a tensile force is applied to the geotextile that is surrounded by soil on both sides is
- (A) anchorage reinforcement (B) membrane reinforcement
 (C) shear reinforcement (D) normal reinforcement

190. TSS is an effluent means
- (A) Total soluble solids (B) Total suspended solids
(C) Total sinking solids (D) Total soap solids
191. Which one of the following is a secondary treatment process?
- (A) Equalisation (B) Neutralisation
(C) Chemical coagulation (D) Trickling filter
192. The Biological oxygen demand in a textile processing industry is greatly reduced at
- (A) primary treatment
 (B) secondary treatment
(C) tertiary treatment
(D) preliminary screening
193. The colour and oxygen demand in an effluent can be reduced using
- (A) Bleaching effluent (B) Scouring effluent
(C) Desizing effluent (D) Printing effluent
194. An effluent which is characterized by high amount of hydrolysed dyes and dissolved salts is
- (A) disperse dyeing effluent
(B) milling acid dyeing effluent
(C) levelling acid dyeing effluent
 (D) reactive dyeing effluent

195. Marker Efficiency % is calculated as

- (A) $\frac{\text{Area of total marker}}{\text{Area of marker used for garments}} \times 100$
- (B) Area of total marker – area of marker used for garments
- (C) $\frac{\text{Area of marker used for garments}}{\text{Area of total marker}} \times 100$
- (D) Area of total marker + Area of marker used for garments

196. The total heat release rate (kw min m^{-2}) will be minimum for fabric made of

- (A) Wool
- (B) Cotton / polyester
- (C) Mod acrylic
- (D) Meta aramid

197. The steps involved in method study procedure is

- (A) Select – examine – record – develop – install - maintain
- (B) Select – record – examine – develop – install - maintain
- (C) Examine – select – record – develop – install - maintain
- (D) Record – select – examine – develop – install - maintain

198. As per SITRA norms, the raw material cost in % is required for 100's combed yarn in

- (A) 46.5
- (B) 58
- (C) 63
- (D) 66.5

199. In a modern mill, the amount of energy consumed by a first passage draw frame for 40 Ne production is _____ kwh for 8 machine running hours

- (A) 30
- (B) 50
- (C) 70
- (D) 288

200. As per SITRA norms, in a modern mill, standard load required for lighting systems is _____ per 1000 spindles.

- (A) 10 KW
- (B) 1 KW
- (C) 5 KW
- (D) 0.5 KW

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

SEAL

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