Register Number

2022
PAPER – I
TEXTILE TECHNOLOGY
(Degree Standard)

Duration : Three Hours]   **[Total Marks : 300**

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

IMPORTANT INSTRUCTIONS

1. You will be supplied with this question booklet 15 minutes prior to the commencement of the examination.

2. This question booklet contains 200 questions. Before answering the questions, you shall check whether all the questions are printed serially and ensure that there are no blank pages in the question booklet. **If any defect is noticed in the question booklet, it shall be reported to the invigilator within the first 10 minutes and get it replaced with a complete question booklet. If the defect is reported after the commencement of the examination, it will not be replaced.**

3. Answer all the questions. All the 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 shade the answers. Instructions regarding filling of answers etc., which are to be followed mandatorily, are provided in the answer sheet and in the memorandum of admission (Hall Ticket).

6. You shall write and shade your question booklet number in the space provided on page one of the answer sheet with **BLACK INK BALL POINT PEN.** If you do not shade correctly or fail to shade the question booklet number, your answer sheet will be invalidated.

7. Each question comprises of five responses (answers) : i.e. (A), (B), (C), (D) and (E). You have to select ONLY ONE correct answer from (A) or (B) or (C) or (D) and shade the same in your answer sheet. If you feel that there are more than one correct answer, shade the one which you consider the best. **If you do not know the answer, you have to mandatorily shade (E).** In any case, choose ONLY ONE answer for each question. If you shade more than one answer for a question, it will be treated as a wrong answer even if one of the given answers happens to be correct.

8. 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 room during the time of the examination. After the examination, 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.

9. **You should not make any marking in the question booklet except in the sheets before the last page of the question booklet, which can be used for rough work. This should be strictly adhered to.**

10. Failure to comply with any of the above instructions will render you liable for such action as the Commission may decide at their discretion.

S

SPACE FOR ROUGH WORK

1. ———— fiber reveals a triangular cross-section under microscopic view.

   (A) Cotton

   (B) Jute

   ✓(C) Silk

   (D) Hemp

   (E) Answer not known

2. A 5% boiling solution of NaOH can be used to eliminate ———— from the sample of fibre mixtures for fibre identification.

   (A) Nylon fibre

   (B) Polyester fibre

   (C) Acetate rayon

   ✓(D) Wool fibre

   (E) Answer not known

3. In mixture of acetate rayon and silk, the silk can be identified by using ————, which dissolves the acetate rayon fibres completely.

   ✓(A) Acetone

   (B) Formic acid

   (C) H_2SO_4

   (D) NaOH

   (E) Answer not known

4. Drape of the fabric is most influenced by which of the following property?

    (A) Moisture

    (B) Specific stress

    (C) Specific gravity

    (D) Elastic recovery

    (E) Answer not known

5. The fibre that contains nitrogen and sulphur is

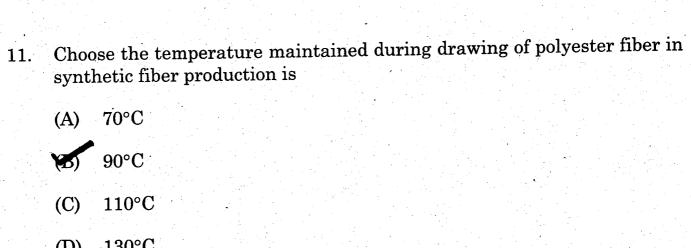   (A) Polyester   (B) Wool

    (C) Nylon 6   (D) Kevlar

    (E) Answer not known

6. At 65% RH and 20°C temperature, the moisture regain of the fibres,

    (P) Wool

    (Q) Nylon 6

    (R) Cotton

    (S) Polyester
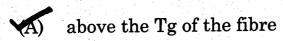
    Follows the order

    (A) (P) > (Q) > (R) > (S)   (B) (P) > (R) > (Q) > (S)

    (C) (R) > (P) > (Q) > (S)   (D) (R) > (P) > (S) > (Q)

    (E) Answer not known

7. Arrange the following fibres in the descending order of stability (loss of strength) towards sunlight

    (P) Silk

    (Q) Cotton

    (R) Cellulose acetate

    (S) Acrylic

    (A) (Q) > (S) > (R) > (P)   (B) (S) > (R) > (Q) > (P)

    (C) (S) > (Q) > (R) > (P)   (D) (P) > (Q) > (R) > (S)

    (E) Answer not known

8. The fibres which are also referred to as composite, conjugate and hetero fibres are

    (A) Inorganic fibres

    (B) Organic fibres

    (C) Bicomponent fibres ✓

    (D) Textured fibres

    (E) Answer not known

9. Which of the following is a natural fibre based on mineral origin?

    (A) Sunn

    (B) Palma

    (C) Rubber

    (D) Asbestos ✓

    (E) Answer not known

10. _____ is defined as one of the delicate, hair like portions of the tissues of a plant or animal, with a length of atleast hundred times its diameter.

    (A) Filament

    (B) Yarn

    (C) Thread

    (D) Fibre ✓

    (E) Answer not known

11. Choose the temperature maintained during drawing of polyester fiber in synthetic fiber production is

    (A) 70°C

    (B) ✓ 90°C

    (C) 110°C

    (D) 130°C

    (E) Answer not known

12. Crimping of the fibres are usually performed at

    (A) ✓ above the Tg of the fibre

    (B) below the Tg of the fibre

    (C) above the crystallization temperature of the fibre

    (D) between the crystallization temperature and melting temperature of the fibre

    (E) Answer not known

13. Select the correct statement from the following with respect to the optimum heat setting temperature and dry (°C)

    (A) Polypropylene > Nylon 6 > Nylon 66 > PET

    (B) PET > Nylon 6 > Nylon 66 > Polypropylene

    (C) ✓ Nylon 66 > PET > Nylon 6 > Polypropylene

    (D) PET > Nylon 66 > Nylon 6 > Polypropylene

    (E) Answer not known

14. Shear viscosity of polymer is not influenced by _____ of polymer.

    (A) Molecular weight

    (B) Shear rate and shear history

    (C) Pressure

    (D) Crystallinity ✓

    (E) Answer not known

15. In _____ spinning technique, the filament cross section varies considerably based on the ratio of the evaporation rate and diffusion rate.

    (A) Wet spinning

    (B) Melt spinning

    (C) Dry spinning ✓

    (D) Dry–Jet–Wet spinning

    (E) Answer not known

16. Identify the incorrect statement, respect to the production of high tenacity nylon

    (A) Polymer molecular weight required for producing high tenacity nylon is higher than the normal nylon

    (B) Spinning temperature is normally lower for high tenacity nylon than normal nylon ✓

    (C) Draw ratio is higher for high tenacity nylon than normal nylon

    (D) Number of drawing stages is higher for high tenacity nylon than normal nylon

    (E) Answer not known

17. The melt flow index (g/10 min) of polypropylene deployed for light weight apparel is

    (A)   1

    (B)   3

    (C)   8

    (D)   20

    (E)   Answer not known

18. During polycondensation process in production of nylon 66, around 14% of weight of the monomer is lost in the form of

    (A)   AH Salt

    (B)   Water

    (C)   Amino caproie acid

    (D)   Diethylene glycol

    (E)   Answer not known

19. Glass transition of a polymeric fiber cannot be measured by

    (A)   Specific volume method

    (B)   Relaxation method

    (C)   Chemical method

    (D)   Mechanical method

    (E)   Answer not known

20. The acceleration of the shoe and projectile occupies _____ seconds.

    (A) 0.002
    (B) 0.007 ✓
    (C) 0.02
    (D) 0.07
    (E) Answer not known

21. _____ selvedge forms double weft density at the selvedge zone.

    (A) Half cross leno selvedge
    (B) Full cross leno selvedge
    (C) Melt selvedge
    (D) Tucked-in selvedge ✓
    (E) Answer not known

22. Calculate the work done/pick in kg.m of a projectile weaving machine, if the torque applied on the torsion bar is 28.76 kg.m and angular displacement at the commencement of picking is 0.49 radians.

    (A) 7.05 ✓
    (B) 14.09
    (C) 28.18
    (D) 58.69
    (E) Answer not known

23. _____ dobby is developed for high speed shuttleless weaving machine.

    (A) Climax
    (B) Knowbe's
    (C) Rotary ✓
    (D) Cam
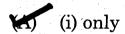   (E) Answer not known

24. _____ is the sudden impact of the dagger on the steel which brings the loom to an almost instantaneous halt.

   (A) Rebounding

   (B) Bang-off ✓

   (C) Casting-out

   (D) Bumping condition

   (E) Answer not known

25. More amount of heald shaft movement is associated with

   (A) Semi open shed

   (B) Fully open shed

   (C) Bottom closed shed ✓

   (D) Centre closed shed

   (E) Answer not known

26. The ratio of the teeth of the gear wheels connecting the crank shaft to the bottom shaft for plain weave is

   (A) 1 : 1   (B) 1 : 2 ✓

   (C) 2 : 1   (D) 1 : 3

   (E) Answer not known

27. In a shuttle loom, the crank shaft speed is 4 rotation/sec and the cloth winding rate is 5 inches/min. Find out the picks/inch of the cloth

   (A) 20

   (B) 28

   (C) 32

   (D) 48 ✓

   (E) Answer not known

28. Calculate the time taken for a winder to wind 2 lbs of 20 Ne yarn, if the winder operates at 800 y ds/min

    (A) 20 min

    (B) 21 min

    (C) 40 min

    (D) 42 min ✓

    (E) Answer not known

29. _____ Type of conical package provides lower tension peaks.

    (A) Shorter traverse and larger diameter ✓

    (B) Shorter traverse and shorter diameter

    (C) Larger traverse and shorter diameter

    (D) larger traverse and larger diameter

    (E) Answer not known

30. Choose the blow ratio range required to have wet pickup of 20-25% on fabrics during foam finishing.

    (A) 1 : 1 to 2 : 1

    (B) 5 : 1 to 7 : 1

    (C) 15 : 1 to 20 : 1

    (D) 10 : 1 to 12 : 1 ✓

    (E) Answer not known

31. "Sodium chlorate is used in printing of polyester fabric with disperse dye" Identify the reason.

   (A) to protect the brightness of dye during steaming

   (B) to enhance the fixation of dye during steaming

   (C) to improve the levelling of the dye during steaming

   (D) to obtain better colour yield during steaming

   (E) Answer not known

32. The reason for usage of the compound has amino group as resisting agent in printing of cotton fabric with reactive dye is

   (A) amino group has slower rate of reaction with dye than hydroxyl group

   (B) amino group has higher rate of reaction with dye than hydroxyl group

   (C) amino group has ability to destroy the reactive dye molecules

   (D) amino group has the ability to hydrolyse the reactive dye molecules

   (E) Answer not known

33. _____ agents enables the emulsification of the thickener with the hydrocarbon to form a printing paste of uniform consistency.

   (A) Dispersing

   (B) Levelling

   (C) Surface active

   (D) Wetting

   (E) Answer not known

34. Choose the incorrect statement/s

    (i)   Jigger dyeing machines are used for continuous process

    (ii)   Padding mangle is used for continuous dyeing process

    (iii) Soft flow dyeing machine is used for batch process

    (A)   (i) only

    (B)   (i) and (ii) only

    (C)   (ii) and (iii) only

    (D)   (i), (ii) and (iii)

    (E)   Answer not known

35. The role of resist salt in dyeing of cellulosic fabric with reactive dye in pad-dry-steam technique is

    (A)   to suppress reduction of dye while steaming

    (B)   to suppress oxidation of dye while steaming

    (C)   to minimize the hydrolyzation of dye

    (D)   to enhance the solubility of dye

    (E)   Answer not known

36. The reaction of reactive dye with cellulose takes place with

    (A)   Primary – OH group at C_4 position

    (B)   Primary – OH group at C_2 position

    (C)   Primary – OH group at C_1 position

    (D)   Primary – OH group at C_6 position

    (E)   Answer not known

37. The residual hypochlorite present on the fabric after bleaching with hypochlorites is removed using

(A) Sodium thiosulphate

(B) Sodium hydroxide

(C) Sulfuric acid

(D) Hydrochloric acid

(E) Answer not known

38. The degree of polymerization of cotton material is determined using

(A) Methylene blue absorption

(B) Barium activity number

(C) Potassium iodide test

(D) Cuprammonium fludity

(E) Answer not known

39. The concentration of Perhydroxyl ion in hydrogen bleaching bath is increased with help of

(A) Sodium chloride

(B) Sodium silicate

(C) Sodium hydroxide

(D) Sodium sulphate

(E) Answer not known

40. Stitches in _____ class are sometimes referred to as double-locked stitches, because the needle thread is inter connected with two loops of under thread.
   (A) 200
   (B) 400
   (C) 500
   (D) 600
   (E) Answer not known

41. Match the following:
   (a) Super imposed seam   1. Gusset
   (b) Lapped seam   2. Double Fold Hem
   (c) Bound seam   3. Side seam
   (d) Edge finishing   4. Necklines

        (a)   (b)   (c)   (d)
   (A)   2   1   4   3
   (B)   3   1   4   2
   (C)   3   4   1   2
   (D)   2   4   1   3
   (E) Answer not known

42. _____ number of minimum threads required to produce class 300 stitch.
   (A) 1
   (B) 2
   (C) 3
   (D) 4
   (E) Answer not known

43. While using mercerised cotton yarn for sewing as needle yarn, the percentage increase in diameter of the yarn during the sewing process is upto
   (A) 5%
   (B) 10%
   (C) 20%
   (D) 30%
   (E) Answer not known

CETT/2022
[Turn over

ς

44. Under normal conditions, upto _____ successive tucks can be accumulated before tension causes yarn rupture or needle damage.

(A) 2　　　　　　　　　　　(B) 4

(C) 6　　　　　　　　　　　(D) 8

(E) Answer not known

45. _____ structure is a single guide bar warp knit fabric.

(A) Lock knit

(B) Satin

(C) Atlas lap

(D) Queens cord

(E) Answer not known

46. Which of the following relation is used to calculate knit fabric tightness factor? 'l' is loop length in cm, CPI is courses per inch, WPI is Wales per inch and k_s is Munden constant

(A) $l/\sqrt{Ne}$

(B) $\sqrt{tex}/l$

(C) k_s/l^2

(D) $CPI \times WPI$

(E) Answer not known

47. _____ stitch occurs accidentally as a result of stiff latches, imperfect knocking-over, or thick places in yarn.

(A) Knit　　　　　　　　　　(B) Tuck

(C) Float　　　　　　　　　　(D) Cable

(E) Answer not known

48. The main objective of activated sludge process of textile effluent treatment is

(A)   Reduction of DO and TDS

(B)   Reduction of TDS and TSS

(C)   Reduction of COD and Turbidity

(D)   Reduction of BOD and colour ✓

(E)   Answer not known

49. The pH value of an effluent is 2.2. 1000 ml of effluent requires 0.464g of NaOH to step up the pH to 7.0. Calculate the quantity of NaOH that would be required to treat 1.3 lakh liters of effluent

(A)   6.032 kg

(B)   60.32 kg ✓

(C)   6032 kg

(D)   6032 g

(E)   Answer not known

50. Quantity of water required for processing of cotton fabric is _____

(A)   1000-1500 kg of water/kg of fabric

(B)   50-90 kg of water/kg of fabric

(C)   100-200 kg of water/kg of fabric

(D)   250-350 kg of water/kg of fabric ✓

(E)   Answer not known

51. As per the child and adolescent Act, child means _____

(A)   A person who has completed his fourteenth year of age

(B)   A person who has not completed his fourteenth year of age ✓

(C)   A person who has completed his fourteenth year of age but has not completed his Eighteenth year

(D)   A person who has completed 18 years of age

(E)   Answer not known

52. The management tool that has been most important and distinguish feature of the Japanese Quality Movement
    (A) QC tools
    (B) KAIZEN
    (C) Six Sigma
    (D) MIS
    (E) Answer not known

53. Regarding the TQM (Total Quality Management), one of the following is correct:
    (A) Technological Break throughs such as automation for improvement focus
    (B) Gradual but continuous improvement of each function
    (C) In view of understanding of customers, TQM is a ambiguous on customer requirements
    (D) A certain margin of error, waste and rework is tolerable
    (E) Answer not known

54. Pareto Principle of 80:20 rule states that
    (A) Create consistency of purpose for the improvement of product and service, so as to become competitive.
    (B) Quality does not happen by accident and needs to be planned.
    (C) A relatively small percentage of factors are responsible for the substantial percentage of effect.
    (D) Create culture of openess so that nobody is afraid of asking questions.
    (E) Answer not known

55. Purchase requisition is prepared by _____
    (A) Purchase Manager
    (B) Foreman
    (C) Supplier
    (D) Store keeper
    (E) Answer not known

56. In time study analysis, a famous scientific management method emphasize the need of work goals and worker skill improvement to achieve high productivity is developed by _____

(A) A.R. Horrocks

(B) G.H. Glock

(C) F.W. Taylor

(D) H.L. Lawrence

(E) Answer not known

57. Time and motion study is conducted by _____

(A) Time keeping department

(B) Personnel department

(C) Payroll department

(D) Engineering department

(E) Answer not known

58. Calculate normal time, if selected time for an element is 0.30 min., the pace rating is 1.10% and sum of all secondary adjustments amount to 20%.

(A) 0.610 min.

(B) 0.396 min.

(C) 0.066 min.

(D) 0.016 min.

(E) Answer not known

59. Balloting of bundle of sliver in a result of _____

(A) Electrical resistance

(B) Thermal resistance

(C) Thermal conductivity

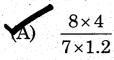(D) Static electricity

(E) Answer not known

60. The fibre which has the highest melting point among the below fibre is
_____

(A) Nylon 6

(B) Polyester ✓

(C) Low density poly Ethylene

(D) Polypropylene

(E) Answer not known

61. Lambert's law is used to analyse the _____ properties of textile fiber.

(A) Flexural

(B) Bending

(C) Optical ✓

(D) Elastic

(E) Answer not known

62. Luster value of fiber does not depend on _____

(A) fiber finess

(B) fiber shape

(C) fiber finish

(D) fiber strength ✓

(E) Answer not known

63. The specific flexural rigidity (mN mm²/tex²) is in increasing order for the following fibres

(i) Glass

(ii) Viscose

(iii) Acetate

(iv) Wool

(A) (ii) (iv) (iii) (i)

(B) (i) (ii) (iii) (iv)

(C) (iii) (i) (ii) (iv)

(D) (iii) (ii) (iv) (i)

(E) Answer not known

64. The time scales for creep testing is

(A) From 1 minute to 1 month

(B) From 10 minute to 1 month

(C) From 15 minute to 2 month

(D) From 30 minute to 3 month

(E) Answer not known

65. The couple required to bend the fibre to unit curvature is called

_____

(A) Flexural Rigidity

(B) Tensile Rigidity

(C) Torsional Rigidity

(D) Compressional Rigidity

(E) Answer not known

66. Identify the incorrect statement with respect to torsional rigidity of the fibre

    (A) The torque to produce unit twist in radians per unit length
    (B) Resistance to twisting
    (C) Torque to produce one turn per unit length
    (D) The couple needed to put in two units of angular deflexion between the ends of a specimen of unit length
    (E) Answer not known

67. Accumulation of small dust particles in the motor groove causes the

    (A) rotor groove to become narrow
    (B) yarn produced in compact nature
    (C) yarn produced becomes gradually more open and voluminous
    (D) reduction of formation of wrapper fibres
    (E) Answer not known

68. Select the wrong statement with respect to rotor spinning machine

    (A) The yarn between navel and twisting-in-point in the rotor exhibit more turns of twist than the yarn
    (B) Twist level increases continuously from navel towards rotor wall
    (C) False twist is generated at navel
    (D) The yarn twist is higher between with drawal roll and navel compared to the region between twisting in-point of rotor and navel.
    (E) Answer not known

69. Select the correct statement in the case of rotor spinning machine

    (A) Yarn tension is generated at twisting-in-point in the rotor
    (B) Yarn tension is maximum at the position between navel and twisting-in-point in rotor
    (C) Yarn tension is highest at the withdrawal roll
    (D) Yarn tension and twist level are directly proportional
    (E) Answer not known

70. The tensile force acting on the yarn, tangential to the cop circumference, during winding at ring frame is

    (A)   directly proportional to the sine of angle of wind

    (B)   inversely proportional to mass of traveller

    (C)   directly proportional to square of ring diameter

    (D)   directly proportional to square of angular velocity of traveller

    (E)   Answer not known

71. The traveller rate is _____, if the spindle speed is 20000 rpm and winding speed is 400 rpm. The ring diameter is 36 mm.

    (A) 11.76π m/sec.   (B) 11.76π m/min

    (C) 11760π m/min   (D) 12000π m/min

    (E)   Answer not known

72. The ring yarn is produced from a roving having a C.V. value of 5%. The unevenness (cv%) of ring yarn produced is 13%. The contribution of ring frame to deterioration (cv) is _____.

    (A)   8%

    (B)   9%

    (C)   12%

    (D)   18%

    (E)   Answer not known

73. For preparing comber lap of good quality, in terms of evenness and parallalisation of fibres in the lap, the number of doubling during the preparatory should be atleast

    (A)   20

    (B)   60

    (C)   80

    (D)   120

    (E)   Answer not known

74. Number of slivers fed to the draw frame is 8. The break draft applied is 1.2 and main draft is 7. The linear density of feed sliver (each) is 4 ktex. The linear density of output sliver is _____ ktex.

(A) $\dfrac{8 \times 4}{7 \times 1.2}$ ✓

(B) $\dfrac{8 \times 1.2}{7 \times 4}$

(C) $\dfrac{7 \times 1.2}{8 \times 4}$

(D) $\dfrac{7 \times 4}{8 \times 1.2}$

(E) Answer not known

75. Shore hardness of cots used in the drafting system of ring frame lies in the range of

(A) $8° - 28°$

(B) $29° - 52°$

(C) $60° - 90°$ ✓

(D) $90° - 180°$

(E) Answer not known

76. Eight slivers are fed to the draw frame drafting system. The sum of individual coefficient of variation (cv) of eight slivers is 20%. The cv of eight slivers combinely fed at the drafting system is _____ %.

(A) $\dfrac{20}{\sqrt{8}}$

(B) $\dfrac{20}{8\sqrt{8}}$ ✓

(C) $20 \times \sqrt{8}$

(D) $\dfrac{8\sqrt{8}}{20}$

(E) Answer not known

77. The linear density of blow room lap is about

(A) 400 tex

(B) 400 Ne

(C) 40000 tex

(D) 400000 tex ✓

(E) Answer not known

78. The formula for calculating standard error of the mean is _____
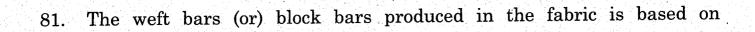
   (Where σ - standard deviation

   n - Sample Size

   μ - Mean Value

   (A) $\sigma \times \sqrt{n}$

   (B) $\sigma / \sqrt{n}$

   (C) $\mu \times \sqrt{n}$

   (D) $\mu / \sqrt{n}$

   (E) Answer not known

79. Identify the module of the FAST instrument used to measure the compression properties of fabrics.

   (A) FAST 1

   (B) FAST 2

   (C) FAST 3

   (D) FAST 4

   (E) Answer not known

80. _____ system measures the dimensional stability of fabric.

   (A) KES

   (B) FAST

   (C) HVI

   (D) AFIS

   (E) Answer not known

81. The weft bars (or) block bars produced in the fabric is based on

_____

   (A)   shorter wavelength
   (B)   medium wavelength
   (C)   longer wavelength
   (D)   extra long wavelength
   (E)   Answer not known

82. According to the British standard, the number of test should be carried out for measuring plied yarn strength by single strand method is

_____

   (A)   10
   (B)   20
   (C)   50
   (D)   100
   (E)   Answer not known

83. In the pressley fiber strength tester, the tensile strength of fiber (g/tex) is calculated by

   (A) $5.36 \times \dfrac{\text{Breaking load in lbs}}{\text{Bundle Weight in mg}}$

   (B) $8.36 \times \dfrac{\text{Breaking load in pounds}}{\text{Bundle Weight in mg}}$

   (C) $53.6 \times$ Pressley Index

   (D) $83.6 \times \dfrac{\text{Bundle Weight in mg}}{\text{Breaking load in lbs}}$

   (E)   Answer not known

84. The length of crimped yarn is 9 cm. The straightened length of yarn is 10 cm. What is the crimp %?

   (A) 9

   (B) 10

   (C) 11 ✓

   (D). 12

   (E) Answer not known

85. In yarn numbering system, worsted (Nw) count is defined as _____

   (A) no. of hanks all 256 yards long in 1 pound

   (B) no. of hanks all 560 yards long in 1 pound ✓

   (C) no. of hanks all 840 yards long in 1 pound

   (D) no. of kilometre lengths in one kilogram

   (E) Answer not known

86. 20 worsted count is equivalent to _____ tex and _____ English count (Ne)

   (A) 40, 10

   (B) 20.13, 13.34

   (C) 40, 20

   (D) 44.26, 13.34 ✓

   (E) Answer not known

87. In cotton fiber, _____ is the ratio of the actual degree of thickening to a standard degree of thickening

    (A) Maturity index

    (B) Maturity ratio ✓

    (C) Immaturity percentage

    (D) Uniformity ratio

    (E) Answer not known

88. The aim of sampling of fibres in fibre length is to measurement produce _____

    (A) high strength yarn

    (B) an unbiased sample ✓

    (C) a biased sample

    (D) nep free web in canding

    (E) Answer not known

89. In soil reinforcement applications, the geo textiles are included to form a composite since the soil is comparatively _____ in compression and _____ in tension.

    (A) strong, weak

    (B) strong, very weak ✓

    (C) moderate, weak

    (D) weak, strong

    (E) Answer not known

90. _____ filter bags are used in hot mixed asphalt plants

    (A)   Polyester

    (B)   Nylon

    (C)   Ceramic

    (D)   Aramid ✓

    (E)   Answer not known

91. _____ fabrics are used in older shaker type systems for dry filtration.

    (A)   Polyester

    (B)   Nylon

    (C)   Acrylic

    (D)   Cotton ✓

    (E)   Answer not known

92. _____ fibres are widely used in woven and nonwoven structures in liquid filtration to improve filtration properties because of their resistance to chemical breakdown.

    (A)   Viscose rayon

    (B)   Polypropylene ✓

    (C)   Polyester

    (D)   Nylon

    (E)   Answer not known

93. For hygiene and medical product applications, identify the fibrous webs preferrable which are produced by anyone of the chemical bonding methods.

(A) Air-laid ✓

(B) Binder-laid

(C) Polymer-laid

(D) Wet-laid

(E) Answer not known

94. In needling, use of fibres with higher crimp results in _____ of needled felt.

(A) poor dimensional stability

(B) lower elongation

(C) lower tear resistance

(D) higher tear resistance ✓

(E) Answer not known

95. Dispersing properties of fibres deteriorate with _____ in fibre fineness ratio and _____ in fibre stiffness.

(A) increase; increase

(B) decrease; increase

(C) increase; decrease ✓

(D) decrease; decrease

(E) Answer not known

96. In practical conditions of net preparation, resultant web take-off rate (V_{outlet}) is calculated by

[AB_{eff} - effective web width, m

V_F - Web feed rate, m/min.

LB_{eff} - effective laying width, m

Z_{simple} - number of single layers]

(A) $V_{outlet} = \dfrac{AB_{eff}.Z_{simple}}{LB_{eff}.V_F}$

(B) $V_{outlet} = \dfrac{AB_{eff}.V_F}{LB_{eff}.Z_{simple}}$

(C) $V_{outlet} = \dfrac{LB_{eff}.Z_{simple}}{AB_{eff}.V_F}$

(D) $V_{outlet} = \dfrac{LB_{eff}.V_F}{AB_{eff}.Z_{simple}}$

(E) Answer not known

97. Performance of spin bonding machine (P_{sp}) is determined by

[m – through put per nozzle, g/min.

n – number of nozzles per meter of spinning width, m^{-1}.

(A) $P_{sp} = m * n * 0.06 \, kg/h.m$

(B) $P_{sp} = \dfrac{m * 0.06}{n} kg/h.m$

(C) $P_{sp} = \dfrac{n * 0.06}{m} kg/h.m$

(D) $P_{sp} = \sqrt{m} * n * 0.06 \, kg/h.m$

(E) Answer not known

98. The webs that are produced by Rotiformer machine, which were developed based on the cylinder mould forming concepts by Sandy 4:11 coroporation, USA.
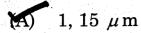
(A) Air-laid

(B) Dry-laid

(C) Polymer-laid

(D) Wet-laid.

(E) Answer not known

99. The melting point of cellulose triacetate fibre is

   (A)   120°C   (B) 135°C
   (C)   300°C   (D) 215°C
   (E)   Answer not known

100. The difference between the refractive indices of a fibre in two perpendicular directions is termed

   (A)   Crystallinity
   (B)   Orientation
   (C)   Calorimetry
   (D)   Birefringence
   (E)   Answer not known

101. The fibre with negative birefringence is

   (A)   Polyester
   (B)   Nylon 6
   (C)   Nylon 66
   (D)   Acrylic
   (E)   Answer not known

102. Match the following characteristic structural features of these fibres:

   List I   List II
   (a) Cotton   1.   Para and ortho cortex
   (b) Jute   2.   Primary and secondary wall
   (c) Wool   3.   Fibroin and sheets
   (d) Silk   4.   Multicellular

	(a)	(b)	(c)	(d)
(A)	4	1	2	3
(B)	2	4	1	3
(C)	2	3	4	1
(D)	2	4	3	1
(E)	Answer not known			

103. The wavelength of electro magnetic waves in Infra-red radiation in ———— and ————.

(A) 1, 15 μm

(B) 50, 75 μm

(C) 0.1, 0.7 μm

(D) 100, 120 μm

(E) Answer not known

104. The value of degree of order is zero for

(A) Completely crystalline fibre

(B) Completely amorphous fibre

(C) 50% crystalline fibre

(D) 50% oriented fibre

(E) Answer not known

CETT/2022
[Turn over

105. During the extension of a fibre specimen, which one of the following is recoverable?

(A) Permanent Set

(B) Primary Creep ✓

(C) Secondary Creep

(D) Tertiary Creep

(E) · Answer not known

106. Which of the following fibre is recovered from rocks?

(A) Pitafloja

(B) Sunn

(C) Tremolite ✓

(D) Latona

(E) Answer not known

107. _____ is an example of chemically modified cellulose fibre.

(A) Viscose rayon

(B) Polymosic rayon

(C) Acetate fibre ✓

(D) Acrylic fibre

(E) Answer not known

108. Identify the cellulosic bast fibre from the following fibres

    (A) Coir

    (B) Abaca

    (C) Urena

    (D) Kapok

    (E) Answer not known

109. Choose the Tenacity of drawn nylon 6 yarn is

    (A) 2.3 – 4.2 gf/denier

    (B) 4.8 – 6.5 gf/denier

    (C) 7.0 – 9.3 gf/denier

    (D) 10.0 – 12.5 gf/denier

    (E) Answer not known

110. Cross-sectional texturization may be carried out by using different types of non-circular spinnerettes, such yarns are _____ yarn.

    (A) Thermoplastic

    (B) Profile-extruded

    (C) Rewinding

    (D) Spuinge

    (E) Answer not known

111. In twist-De-twist method of texturising, the yarns must be twisted by twisting upto _____ t.p.m.

(A) 500

(B) 1000

(C) 2000

(D) 5000

(E) Answer not known

112. The number of end groups during caprolactan polymerisation increases with increase in

(A) Water concentration

(B) Temperature

(C) Stabilizer content

(D) Time of polymerisation

(E) Answer not known

113. _____ spinning method is extensively used for the manufacture of aramid fibres.

(A) Dry spinning

(B) Wet spinning

(C) Melt spinning

(D) Dry-Jet-Wet spinning

(E) Answer not known

114. Choose from the following yarn, is characterised by greater bulk, better covering power and more subdued lustre without stretch.

(A) Air jet textured yarns

(B) False twist texture yarns

(C) Edge crimped yarns

(D) Stuffer boxed yarns

(E) Answer not known

115. The main reason for the usage of co-monomers in acrylic fibre manufacture is

(A) To improve dye uptake

(B) To improve tenacity

(C) To improve moisture absorbency

(D) To improve flexibility

(E) Answer not known

116. Boiling point of Acetone (solvent) used in dry spinning is —————°C.

(A) 41

(B) 56

(C) 10

(D) 100

(E) Answer not known

117. In the case of polypropylene, a molecular weight of _____ is adequate for fiber formation.

(A) 18,000 g/mol

(B) 24,000 g/mol

(C) 60,000 g/mol

(D) 75,000 g/mol

(E) Answer not known

118. Identify the fiber property, which decreases at high Crystallinity

    (A)   Initial modulus

    (B)   Hardness

    (C)   Dye absorption

    (D)   Dimensional stability

    (E)   Answer not known

119. Choose from the following fiber forming polymer, that crystallize at very slow rate

    (A)   Poly ethylene terepthalate

    (B)   Polyamides

    (C)   Polypropylene

    (D)   Polyethylene

    (E)   Answer not known

120. _____ draft is useful in weaving high denser fabric.

    (A)   Herring-bone

    (B)   Point

    (C)   Sateen

    (D)   Skip

    (E)   Answer not known

121. _____ weave is produced by indicating on additional weft float above each blank of the original 5-end satin.

    (A)   Buck skin

    (B)   Lamp skin

    (C)   Swans down

    (D)   Venetian

    (E)   Answer not known

122. The velocity of the head frame is

(A) Maximum at bottom and top position

(B) Maximum at bottom position but minimum at top position

(C) Minimum at both bottom and top position but maximum at centre position

(D) Constant from bottom to top position .

(E) Answer not known

123. The figuring capacity of the jacquard is 600 and the harness is tied with a 100 ends per inch. If the same jacquard is required to weave a cloth with 80 ends per inch, what is the reduced figure capacity after casting out.

(A) 480   (B) 600

(C) 780   (D) 880

(E) Answer not known

124. With respect to five roller reversing motion, identify the correct statement.

(A) The total number of shafts raised for each pick can be different

(B) The total number of shafts raised for each pick should be constant

(C) All the rollers rotate in fixed bearings

(D) Bottom most roller rotates in fixed bearings and the others rise and fall

(E) Answer not known

125. Twill weave can be produce in a tappet weaving machine, if the crank shaft rotates at 240 rpm and tappet shaft rotates at 40 rpm

(A) $\frac{2}{2}$ (B) $\frac{2}{3}$

(C) $\frac{2}{4}$ (D) $\frac{2}{5}$

(E) Answer not known

126. Identify the size suitable for filament yarns followed in water-jet loom

    (A) Polyvinyl acetate

    (B) Polyvinyl alcohol

    (C) Sodium esters

    (D) Corboxy methyl cellulose

    (E) Answer not known

127. Identify the warping machines are mainly used in manufacturing of denim fabrics

    (A) Ball warping   (B) Beam warping

    (C) Sectional warping   (D) Draw warping

    (E) Answer not known

128. Opening tube is selected for opening of high twisted yarn and compact yarns in yarn splicex zone

    (A) Z - tube

    (B) S - tube

    (C) Saw tooth tube

    (D) Blower nozzles

    (E) Answer not known

129. There are packages of different circumferences of 10 cm, 25 cm, 50 cm and 100 cm. The package rotation of each package per drum rotation would be 10, 4 , 2, 1 respectively. What will be the surface movement of each package?

    (A) 3.14 cm

    (B) 10 cm

    (C) 100 cm

    (D) 314 cm

    (E) Answer not known

130. The influence of fabric moisture content on the performance of raising process is

(A) Dry fabric is easier to raise than moisted one

(B) Low moisture content provide easier raising

(C) High moisture content hinder raising process

(D) High moisture content provide easier raising

(E) Answer not known

131. Identify the groups present in DMDHEU compound has higher reactivity with cellulose

(A) N-methylol

(B) Dimethylol

(C) N-Ethyl triazone

(D) Ethylamine

(E) Answer not known

132. "Sulphated fatty alcohol considered as valuable anionic softeners" Identify the reason

(A) It develops wet wany surface effect

(B) It develops dry wany surface effect

(C) It develops moisturised surface effect

(D) It develops high frictional surface effect

(E) Answer not known

133. The advantages of thermofixation method adopted for polyester fabric printed with disperse dyes are

(A) Batch process and no flushing of prints

(B) Continuous process and no flushing of prints

(C) Continuous process and flushing of prints

(D) Batch process and flushing of prints

(E) Answer not known

134. Choose the thickness of doctor blades used in roller printing machine ranging from

    (A) $1/32$ to $1/16$ feet

    (B) $1/32$ to $1/16$ inch

    (C) $1/32$ to $1/16$ cm

    (D) $1/32$ to $1/16$ mm

    (E) Answer not known

135. The use of Thickner in the printing paste obtained

    (A) Stickiness and plasticity of the paste

    (B) Exhaustion and fixation of the paste

    (C) Migration of the dye molecules

    (D) Thinning of the printing paste

    (E) Answer not known

136. The role of diethylene glycol in the printing paste prepared using direct class of dye is

    (A) Production of fabric with good fastners

    (B) Production of level and deeper patterns

    (C) Production of fabric with good design

    (D) Production of fabric with less stiffness

    (E) Answer not known

137. Identify the name of compound, liberated from sulphur dye during dyeing, forms corrosive metal sulphide

   (A) Na_2S

   (B) H_2SO_3

   (C) SO_2

   (D) H_2S ✓

   (E) Answer not known

138. In polyester dyeing with disperse dyes, the rate of adsorption of dye on the fibre surface is higher than the rate of diffusion into the fiber. This is because

   (A) the surface of the fibre is full of C – O – C linkages ✓

   (B) the surface of the fibre is full of C = O linkages

   (C) the interior of the fibre has C – O – C linkages

   (D) the interior of the fibre has – COOH linkages

   (E) Answer not known

139. Blended fabrics containing coloured threads can be bleached at _____ temperature.

   (A) 80°C ✓

   (B) 85°C

   (C) 90°C

   (D) 95°C

   (E) Answer not known

140. Choose the correct sequence of the samples from order confirmation to commencement of production at part of pre-production activity in the apparel industry

    (i)   Size-set sample

    (ii)   Pre production sample

    (iii) Fit sample

    (iv) Proto sample

    (A)   (i) - (ii) - (iii) - (iv)

    (B)   (iv) - (iii) - (ii) - (i)

    (C)   (iv) - (iii) - (i) - (ii) ✓

    (D)   (i) - (ii) - (iv) - (iii)

    (E)   Answer not known

141. The sharp point needles are mostly preferred for sewing

    (A)   Collars ✓

    (B)   Pockets

    (C)   Sleeve

    (D)   Yoke

    (E)   Answer not known

142. _____ is used to stitch a tubular seam of narrow width on the edge of shirts and trousers.

    (A)   Bar tacking machine

    (B)   Picotting machine

    (C)   Feed-off arm sewing machine ✓

    (D)   Over lock machine

    (E)   Answer not known

143. _____ represents the area in the cutting table where the fabrics are overlapped during the run out fabric rolls or elimination of fabric defects during spreading.

(A) Legend

(B) Splice marks ✓

(C) Beginning line

(D) End line

(E) Answer not known

144. _____ is a wedge-shaped cut-out in a pattern to control the fit of a garment when stitched.

(A) Dart ✓

(B) Trueing

(C) Grain

(D) Bias

(E) Answer not known

145. _____ is unique among other methods in relying on copies of previously developed patterns.

(A) Bespoke

(B) Pattern drafting

(C) Pattern draping

(D) Flat pattern making ✓

(E) Answer not known

146. A guide bar lapping movement of an over lap followed by an under lap in the same direction is termed as

(A) Closed lap
(B) Open lap
(C) Laying-in
(D) Blind lap
(E) Answer not known

147. _____ is used for fancy laces and nets for dress wear, under wear, night wear and industrial fabrics.

(A) Laying in
(B) Plated structure
(C) Open-work structure
(D) Plush and pile
(E) Answer not known

148. _____ laps are heavier, more compact, more opaque and less extensible than _____ laps produced from the same yarn in warp knitting.

(A) closed ; open
(B) open ; closed
(C) over ; under
(D) under ; over
(E) Answer not known

149. _____ can controls the depth to which the needles descends, thus controlling the amount of yarn drawn into the needle loop.

(A) Stitch
(B) Upthrow
(C) Guard
(D) Bolt
(E) Answer not known

150. Maximum colour removal in textile effluent treatment process takes place in

(A) Sedimentation
(B) Coagulation
(C) Trickling filtration
(D) Reverse osmosis
(E) Answer not known

151. The marketing mix of a business that do not include one of the following p's in the product mix.

(A) price

(B) position

(C) product

(D) place

(E) Answer not known

152. In a business, the mark-on pricing is the initial mark-up price which is calculated by formulae:

(A) $\dfrac{\text{Gross Margin} - \text{Retail Reduction}}{100\% + \text{Retail reduction}}$

(B) $\dfrac{\text{Gross Margin}}{100\% - \text{Retail reduction}}$

(C) $\dfrac{\text{Gross Margin} + \text{Retail Reduction}}{100\% + \text{Retail reduction}}$

(D) $\dfrac{\text{Gross Margin}}{100\% + \text{Retail reduction}}$

(E) Answer not known

153. The stage in the life cycle of a product, where number of buyers will continue to grow, but more slowly.

(A) Introduction

(B) Growth

(C) Maturity

(D) Decline

(E) Answer not known

154. One of the following involves periodic control, surprise inspections, employee empowerment, self respect and respect for others

(A) Shitsuke

(B) Seiketsu

(C) Seiso

(D) Seiton

(E) Answer not known

155. Welfare expenses will be shown in the cost sheet under _____

   (A) Selling overhead
   (B) Administrative overhead
   (C) Office overhead
   ✓(D) Works overhead
   (E) Answer not known

156. Direct labour means _____

   (A) Labour which completes work manually
   (B) Labour recruited directly and not through contractors
   (C) Permanent labour in production department
   ✓(D) Labour whom can be conveniently associated with particular cost unit
   (E) Answer not known

157. The fixed cost/year is Rs. 10,00,000. The variable cost per unit is Rs. 50 and selling price/unit is Rs. 100. The breakeven quantity per year is

   (A) 5,00,000
   ✓(B) 20,000
   (C) 20,00,000
   (D) 2,00,000
   (E) Answer not known

158. Select from the following equipments, _____ is not necessary for basic time study procedures.

   (A) Stop watch
   (B) Study board
   ✓(C) French curve scale
   (D) Time study forms
   (E) Answer not known

159. Identify from the following ———— does not influence the electrical Resistance of fibre?

(A) Moisture of fibre
(B) RH% of atmosphere
(C) Impurities
(D) Atmospheric Pressure ✓
(E) Answer not known

160. Identify the correct statement from the following with respect to fibre thermal behavior?

(A) The temperature of second order transition is high
(B) A second order transition involves no change of molecular arrangement ✓
(C) Second order transition is melting
(D) No change in structure occurs during first order transition
(E) Answer not known

161. In nylon fibres as produced, the shrinkage in boiling water is ————

(A) 10% ✓
(B) 0%
(C) 20%
(D) 40%
(E) Answer not known

162. The fibre which possess the highest percentage of strength retention after prolonged exposure to high temperature among the following is

(A) Glass ✓
(B) Acrylic
(C) Nylon
(D) Polyester
(E) Answer not known

163. The tensile properties of wool fiber is significantly affected in

   (A) Acid condition

   (B) Alkali condition

   (C) Acid, Alkali condition

   (D) Neutral condition

   (E) Answer not known

164. Name the fiber has extremely high shear modulus among the following

   (A) Glass

   (B) Cotton

   (C) Nylon

   (D) Wool

   (E) Answer not known

165. If the material Obeys hook's law, the work factor of that particular fiber will be _____

   (A) Less than 0.5   (B) Equal to 0.5

   (C) 0.5 to 1   (D) Equal to 1

   (E) Answer not known

166. Choose the incorrect statement from the following ;

   (A) When the fibre is held stretched, the stress in it gradually decreases

   (B) When the Extension of fibre increases, the stress relaxation rate decreases

   (C) As the extension percent increases, the stress relaxation extent also increases

   (D) As the temperature increases, the stress relaxation rate is increasing

   (E) Answer not known

167. In wool fiber, the increase in relative humidity

    (A) Raise the yield point   (B) Reduce the yield point

    (C) Reduce the moisture regain   (D) Raise the initial modulus

    (E) Answer not known

168. The work recovery of a tensile fiber is defined as _____

    (A) Work returned during recovery/Total work done in extension

    (B) Elastic extension/total extension

    (C) Plastic extension/total extension

    (D) ½(breaking load × breaking elongation)

    (E) Answer not known

169. Verify the statements and choose the correct answer:

    (1) In all the manmade fibres the bending stress-strain curves lay below the tensile curve and indicated that yield in bending.

    (2) The yield on the compression side of the bend occurred more easily than yield in tension

    (A) (1) is correct and (2) is not a reason

    (B) (1) is not correct and (2) is a reason

    (C) (1) is correct and (2) is correct reason

    (D) Both (1) and (2) are not correct

    (E) Answer not known

170. The wool has the highest breaking extension among the natural fibres, this is due to

    (A) spirally wounded micro fibrils

    (B) long fibre length

    (C) high moisture regain

    (D) high number of scales on its structure

    (E) Answer not known

CETT/2022

[Turn over

171. Radius of yarn is proportional to

    (A)   yarn count Ne

    (B)   Inverse of specific volume of yarn

    (C)   square root of specific volume of yarn ✓

    (D)   square of specific volume of yarn

    (E)   Answer not known

172. The equation used to determine the radius of yarn is _____. In the equation

V_y - specific volume of yarn (m³/g)

C - tex count of yarn

R – Radius of yarn (cm)

    (A) $R = \left[\left(V_y . C \right) / \left(10^5 . \pi \right) \right]$

    (B) $R = \left[\left(V_y . C \right) / \left(10^5 . \pi \right) \right]^2$

    (C) $R = \left[\left(V_y . C \right) / \left(10^5 . \pi \right) \right]^{3/2}$

    (D) $R = \left[\left(V_y . C \right) / \left(10^5 . \pi \right) \right]^{1/2}$ ✓

    (E)   Answer not known

173. Advantages of 4 spindle tape drive over tangential belt drive does not include

    (A)   lower noise level

    (B)   less energy consumption

    (C)   easy to replace

    (D)   less disturbance to the air under the machine ✓

    (E)   Answer not known

174. Piecing of web at comber creates _____ variation in the slivers coming out of the heads of comber.
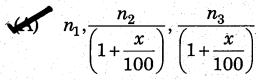
   (A) Random   (B) Periodic
   (C) Quasi-periodic   (D) False
   (E) Answer not known

175. The noii removed at comber can be increased by using top comb with _____ needle density and _____ depth of penetration of top comb.

   (A) higher, higher   (B) higher, less
   (C) less, higher   (D) less, less
   (E) Answer not known

176. The front zone and back zone setting kept for processing cotton at ring frame drafting system lies in the range of _____ and _____ respectively.

   (A) 40-45 mm, 50-65 mm   (B) 30-35 mm, 50-65 mm
   (C) 40-45 mm, 40-50 mm   (D) 50-65 mm, 40-45 mm
   (E) Answer not known

177. The diameter (d) of all the three rollers of drafting system is equal. The speed of front, middle and back roller are n_1, n_2 and n_3 rpm. If the total draft has to be increased by x%, by maintaining break draft and delivery rate same, the respective speed of front, middle and back roller should be changed to

   (A) $n_1, \dfrac{n_2}{\left(1+\dfrac{x}{100}\right)}, \dfrac{n_3}{\left(1+\dfrac{x}{100}\right)}$ (B) $n_1, n_2\cdot\left(1+\dfrac{x}{100}\right), n_3\cdot\left(1+\dfrac{x}{100}\right)$

   (C) $n_1, n_2, \dfrac{n_3}{\left(1+\dfrac{x}{100}\right)}$ (D) $n_1, \dfrac{n_2}{\left(1+\dfrac{x}{100}\right)}, n_3$
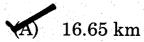
   (E) Answer not known

178. The lint (%) in the waste removed in the machine of blow room working in good condition with optimum process parameters is about

   (A)   0 – 5%

   (B)   5 – 20%

   (C)   20 – 30%

   (D)   30 – 45%

   (E)   Answer not known

179. The cleaning efficiency of blow room and card are 60% and 80% respectively. If the trash present in the cotton fed to the blow room is 5%, find the trash % present in the card sliver.

   (A)   0%

   (B)   0.4%

   (C)   2%

   (D)   4.6%

   (E)   Answer not known

180. In the carding machine with three licker-in, the clothing of licker-in are arranged in _____ disposition relative to each other and their speeds _____ in the through flow direction

   (A)   carding, increase

   (B)   doffing, increase

   (C)   carding, decrease

   (D)   doffing, decrease

   (E)   Answer not known

181. The Elemendorf tear tester measures _____ the fabric.

   (A)   Fabric extension during tearing

   (B)   Fabric tension during tearing

   (C)   Energy gain during tearing

   (D)   Energy loss during tearing ✓

   (E)   Answer not known

182. The heart loop test is used to measure

   (A)   fabric stiffness

   (B)   fabric crease recovery

   (C)   fabric tear strength

   (D)   fabric drape ✓

   (E)   Answer not known

183. The tounge "double rip" test is used to measure the

   (A)   Tensile strength of the yarn

   (B)   Tearing strength of the yarn

   (C)   Tensile strength of the fabric
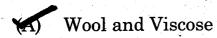
   (D)   Tearing strength of the fabric ✓

   (E)   Answer not known

184. In the original specimen length was 10 cm and it was stretched to a length of 15 cm, after removal of load the length of the specimen become 12 cm, then find out elastic recovery

   (A)   0.20

   (B)   0.40

   (C)   0.50

   (D)   0.60

   (E)   Answer not known

185. Calculate the breaking length of a 100 denier viscose rayon yarn break at a load of 185 g.
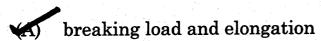
   (A)   16.65 km

   (B)   14.32 km

   (C)   12. 65 km

   (D)   10.39 km

   (E)   Answer not known

186. In the results of HVI, 'SCI' stands for

   (A)   Spun Yarn Count Index

   (B)   Spinning Count Index

   (C)   Spinning Count Imperfection

   (D)   Spinning Consistency index

   (E)   Answer not known

187. The following fibres loses its strength when they absorb water?

(A) Wool and Viscose

(B) Hemp and Jute

(C) Viscose and Jute

(D) Wool and hemp

(E) Answer not known

188. The relationship between the degree of cell wall thickening (θ) and Maturity ratio (M) is _____

(A) $\theta = 0.177\,M$

(B) $\theta = 0.377\,M$

(C) $\theta = 0.577\,M$

(D) $\theta = 0.877\,M$

(E) Answer not known

189. While testing the fibre in sterometer, the results obtained are

(A) breaking load and elongation

(B) tenacity and maturity

(C) fineness and tenacity

(D) maturity and uniformity ratio

(E) Answer not known

190. In geo textile applications with the textiles made of natural fibres, this fibre has higher creep rates

   (A) Abaca

   (B) Coir ✓

   (C) Flax

   (D) Sisal

   (E) Answer not known

191. If a fibre is repeatedly taken through a given cycle of stress, the loading and unloading curves in successive cycles will gradually come closer together, till they form a continuously repeated loop. This phenomenon is applied to following product while manufacturing

   (A) Tyre cord ✓

   (B) Parachute cloth

   (C) Fish net

   (D) Geogrid

   (E) Answer not known

192. A typical yarn for seat belt is made of _____ ends of _____ dtex each.

   (A) 50; 400

   (B) 110; 700

   (C) 320; 1100 ✓

   (D) 460; 2100

   (E) Answer not known

193. The speciality polymer that finds itself in soft contact lenses is due to oxygen permeability property.

    (A) Alginate
    (B) Chitosan
    ✓(C) Collagen
    (D) Casein
    (E) Answer not known

194. In applications like land fills and water and sewage tunnels, the function of geo textile required is

    (A) frame resistance
    ✓(B) puncture resistance
    (C) drainage percolation
    (D) acoustic protection
    (E) Answer not known

195. _____ process is mostly suitable for altering papery character of some nonwovens and imparting more volume and softness.

    (A) Glazing
    ✓(B) Compacting
    (C) Calendering
    (D) Pressing
    (E) Answer not known

196. Filter media for fine dust filtration (filter classes F5-F9) are manufactured from fibres of _____ dtex.

    ✓(A) 0.5 - 20
    (B) 30 - 50
    (C) 60 - 75
    (D) 80 - 100
    (E) Answer not known

197. Fibre characteristics influencing degree of web bonding
    (i) Fibre geometry
    (ii) Fibre tenacity
    (iii) Fibre uniformity
    (A) (i) and (ii) only   (B) (ii) and (iii) only
    (C) (i) and (iii) only   (D) (i) only
    (E) Answer not known

198. In needle punch nonwoven bonding system, the theoretical number of fibres (n_f) that may be collected in the needle barbs calculated by formulae

    (A) $\dfrac{b_d}{d_f}.n_b$ (B) $\dfrac{b_d}{2d_f}.n_b$

    (C) $\dfrac{2b_d}{d_f}.n_b$ (D) $\dfrac{2b_d}{d_f}.P_d$

    (E) Answer not known

199. Through put per nozzle (m) in spun bonding machine is calculated by
    [d_A – nozzle diameter, mm
    V_A – emerging velocity, m/min.
    ρ_p – polymer density, g/cm³]
    (A) $m = d_A.V_A^2.\rho_p.0.785$ (B) $m = d_A^2.V_A.\rho_p.0.785$
    (C) $m = d_A.V_A.\rho_p^2.0.785$ (D) $m = d_A.V_A.\rho_p.0.785$
    (E) Answer not known

200. An established 'Struto System' is a web forming and laying process to produce three – dimensional structure along with thermoplastic fibres. The type of webs formed in the above system is _____
    (A) Air-laid webs   (B) Perpendicular-laid webs
    (C) polymer-laid webs   (D) Wet-laid webs
    (E) Answer not known

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK

S