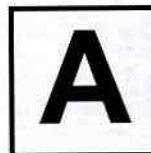


DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

Booklet Serial No. : **002869**

Test Booklet Series

TEST BOOKLET - 2022
NON ENGINEERING TEXTILE DESIGNING
LECTURER II
(17)



Time Allowed: Two Hours

Maximum Marks: 100

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET DOES **NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
 2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
 3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **DO NOT** write anything else on the Test Booklet.
-
4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Response sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
 5. You have to mark all your responses **ONLY** on the separate Response Sheet provided. See directions in the Response Sheet.
 6. All items carry equal marks.
 7. Before you proceed to mark in the Response sheet the response to various items in the Test Booklet you have to fill in some particulars in the Response Sheet as per instructions sent to you with your Admission Certificate.
 8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Response Sheet**. You are permitted to take away with you the Test Booklet and Candidate's Copy of the Response Sheet.
 9. Sheets for rough work are appended in the Test Booklet at the end.
 10. **Penalty for wrong answers:**
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **0.25** of the marks assigned to that question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no **penalty** for that question.

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SEAL

003864

1. Match the fiber with the given composition

- | | |
|--------------|-----------------|
| 1) Cotton | i) PTA |
| 2) Polyester | ii) Cellulose |
| 3) Nylon 6 | iii) Keratin |
| 4) Wool | iv) Caprolactum |

The correct match is

- | | 1 | 2 | 3 | 4 |
|----|------|------|------|------|
| A) | ii) | i) | iv) | iii) |
| B) | i) | ii) | iii) | iv) |
| C) | iv) | iii) | ii) | i) |
| D) | iii) | iv) | ii) | i) |

2. _____ is man-made cellulosic fibre.

- A) Polyester
- B) Viscose
- C) Silk
- D) Wool

3. Consider the following statements:

- 1. The density of cotton fiber is 1.52 g/cm^3
- 2. Cotton is hygroscopic

The correct statements are

- A) 1 only
- B) 2 only
- C) Both
- D) Neither

4. _____ is a natural, cellulose, bast, multi-cellular fibre.

- A) Polyester
- B) Cotton
- C) Silk
- D) Flax

5. Viscose polymer system is _____% amorphous.
- A) 20
 - B) 40
 - C) 60
 - D) 80
6. Consider the following statements:
- Assertion (A) :** Felting is associated with Wool.
- Reason (R):** Wool is highly amorphous
- A) A and R are both correct and R is NOT the correct explanation of A
 - B) A and R are both correct and R is the correct explanation of A
 - C) A is correct, but R is NOT correct
 - D) A is Not correct, but R is correct
7. The raw silk strand consists of two silk filaments encased by a protien called _____
- A) Cellulose
 - B) Keratin
 - C) Sericin
 - D) Lignin
8. Consider the following statements:
- Assertion (A):** Acrylic fibers are Hygroscopic.
- Reason (R):** Polymer system is highly amorphous
- A) A and R are both correct and R is NOT the correct explanation of A
 - B) A and R are both correct and R is the correct explanation of A
 - C) A is correct, but R is NOT correct
 - D) A is NOT Correct, but R is correct
9. _____ is a linear, polyamide polymer.
- A) Polyester
 - B) Nylon
 - C) Acrylic
 - D) Acetate

10. _____ fiber is hydrophobic and oleophilic.

- A) Cotton
- B) Polyester
- C) Nylon
- D) Wool

11. Opening and Cleaning of cotton fibers done at _____ process.

- A) Blow room
- B) Draw frame
- C) Speed frame
- D) Ring frame

12. Consider the following statements:

- 1. Carding reduces neps
- 2. Blow room generates neps amorphous

The correct statements are

- A) 1 only
- B) Both
- C) 2 only
- D) Neither

13. If C.V% of the individual silver is 3% and the number of doubling is 8, then C.V% of the combined silver is _____

- A) 1.06
- B) 2.06
- C) 3.06
- D) 4.06

14. Autoleveller in draw frame is to control _____

- A) Nep level
- B) Irregularity
- C) Short fibers
- D) Trash

15. If twist per meter is "t" and Count (tex) is "T", then Twist Factor = _____
- A) $t\sqrt{T}$
 - B) t/\sqrt{T}
 - C) $t+\sqrt{T}$
 - D) $t-\sqrt{T}$
16. The amount of twist for maximum strength is largely influenced by _____
- A) Fiber strength
 - B) Fiber fineness
 - C) Fiber maturity
 - D) Fiber friction
17. Acceptable end breaks per 100 spindle hour is up to _____
- A) 3
 - B) 5
 - C) 7
 - D) 10
18. Spindle speed for processing fine count of polyester/cotton blends will be in the range of _____.
- A) 17500 rpm
 - B) 30000 rpm
 - C) 1000 rpm
 - D) 5000 rpm
19. In the yarn winding process, Splice strength is at least _____% of the mean yarn strength.
- A) 50
 - B) 75
 - C) 95
 - D) 40
20. Cone angle used for packages intended for shuttle-less weaving is _____
- A) 2°
 - B) 5°
 - C) 10°
 - D) 20°

21. The working speed of the warping machine is around _____ meters/min.

- A) 800
- B) 1500
- C) 2000
- D) 2500

22. Consider the following statements:

1. Sizing increases the strength of the yarn
2. Sizing increase the abrasion resistance of the yarn

The correct statements are

- A) 1 only
- B) Both
- C) 2 only
- D) Neither

23. _____ is the entering of yarns from a new warp into the weaving elements of a weaving machine.

- A) Tying in
- B) Drawing in
- C) Warping
- D) Sizing

24. _____ is the movement of some warp yarns up and some down to make an angled opening for the filling yarn to be inserted through.

- A) Shedding
- B) Picking
- C) Take-up
- D) Let-off

25. Match the following and it's unit.

- | | |
|----------------------|----------------|
| 1) Reed Count | i) Ne |
| 2) Warp Count | ii) Dents/inch |
| 3) Warp cover factor | iii) PPI |
| 4) Weft cover factor | iv) EPI |

The correct match is

- | | 1 | 2 | 3 | 4 |
|----|------|------|------|------|
| A) | ii) | i) | iv) | iii) |
| B) | i) | ii) | iii) | iv) |
| C) | iv) | iii) | ii) | i) |
| D) | iii) | iv) | ii) | i) |

26. Weft insertion rate of projectile is around _____ meters/min.

- A) 1400
- B) 2500
- C) 2000
- D) 1750

27. Match the following

- | | |
|---------------------|--------------------------------|
| 1) Yarn Accumulator | i) Picking |
| 2) Shuttle | ii) Pre-determined yarn length |
| 3) Reed | iii) Shedding |
| 4) Heald | iv) Beat-up |

The correct match is

- | | | | | |
|----|------|------|------|------|
| | 1 | 2 | 3 | 4 |
| A) | ii) | i) | iv) | iii) |
| B) | i) | ii) | iii) | iv) |
| C) | iv) | iii) | ii) | i) |
| D) | iii) | iv) | ii) | i) |

28. If the beat-up force is increased beyond a certain magnitude to obtain a close pick spacing, the beat-up force is taken by the warp and the fabric becomes slack. This situation is known as _____.

- A) Jumping
- B) Barre
- C) Bumping
- D) Picking

29. Warp density and filling density together are referred to as the _____.

- A) Construction
- B) Ends/inch
- C) Picks/inch
- D) Crimp

30. _____ selvage weave fabrics have excellent shear resistance.

- A) Tucked-in
- B) Half cross leno
- C) Fringe
- D) shuttle

31. In _____ shedding, the harnesses are either raised or lowered by the cam mechanism but they are returned by the action of some external device.

- A) Positive cam
- B) Negative cam
- C) Dobby
- D) Jacquard

32. Picks per repeat are virtually unlimited in _____ shedding.

- A) Positive cam
- B) Negative cam
- C) Dobby
- D) Double cam

33. Consider the following statements:

1. Jacquard shedding machines offer the highest level of warp yarn control.
2. Jacquard shedding is based on cams.

The correct statements are

- A) 1 only
- B) Both
- C) 2 only
- D) Neither

34. Relay nozzles are related to _____ weaving process.

- A) Projectile
- B) Rigid Rapier
- C) Air-jet
- D) Flexible Rapier

35. _____ weave has the maximum level of yarn crimp in its structure.

- A) Twill
- B) Plain
- C) Satin
- D) Sateen

36. _____ weaves are produced by combing warp and filling ribs.
- A) Plain
 - B) Twill
 - C) Satin
 - D) Basket
37. If the twill line angle is 45 degree, the design is called _____ twill.
- A) Common
 - B) Uncommon
 - C) Broken
 - D) Satin
38. In _____ weave, one yarn has a long float over several other yarns on one side of the fabric.
- A) Twill
 - B) Satin
 - C) Plain
 - D) Basket
39. Consider the following statements:
- 1. Plain weave has a low modulus compared to other designs.
 - 2. Plain weave has the maximum level of crimp.
- A) A and R are both correct and R is NOT the correct explanation of A
 - B) A and R are both correct and R is the correct explanation of A
 - C) A is correct, but R is NOT correct
 - D) A is NOT Correct, but R is correct
40. The pattern in which the warp and filling yarns are interlaced is called _____.
- A) Drawing-in-Draft
 - B) Reed count
 - C) Order of Interlacing
 - D) Cover factor

41. The tension device maintains a proper tension in the yarn to achieve a uniform _____.
 A) Weight
 B) Length
 C) Packing Density
 D) Size
42. In _____ winding, the position of the yarn as it is laid on the package is controlled very precisely to increase the density of the package.
 A) Cone
 B) Cheese
 C) Precision
 D) Quill
43. The finish is fixed to the fiber surface, usually by an additional step called _____.
 A) Exhaustion
 B) Curing
 C) Padding Method
 D) All the above
44. In batch processes, the amount of chemical finish to be applied is usually expressed as a weight percentage based on the original fabric weight using the formula
 A) $\%owf = wt \text{ chemical} * 100 / \text{fabric wt}$
 B) $\%owf = \text{fabric weight} * 100 / wt \text{ chemical}$
 C) $\%owf = \text{fabric weight} * \text{weight chemical} * 100$
 D) $\%owf = \text{fabric weight} - \text{weight chemical} * 100$
45. The glass transition temperature of PVA is
 A) 82 degree
 B) 90 degree
 C) 80 degree
 D) 84 degree

46. Smooth wrinkle-free appearance after washing without ironing is obtained from _____ finish.
- A) Durable press
 - B) Dimension stability
 - C) Easy-care and wrinkle resistance
 - D) Sheen
47. The flexural rigidity of fabric is greatly influenced by
- A) Bending modulus
 - B) Bending length
 - C) The thickness of the fabric
 - D) TPI
48. In the case of the Raschel warp knitting machine 'gauge' refers to
- A) Number of needles per two inch
 - B) Number of needles per inch
 - C) Number of needles per cm
 - D) Number of needles per two cm
49. The count of the yarn to be worked on the knitting machine can be found using the formula ($G = \text{Gauge}$).
- A) $Ne = G/8.4$
 - B) $Ne = G^2/8.4$
 - C) $Ne = G^2/9.6$
 - D) $Ne = G/9.6$
50. The fabric fault is caused when the needle is not raised by the clearing cam
- A) Knit loop
 - B) Tuck loop
 - C) Held loop
 - D) Float

51. For a Milano Rib fabric, the knitting sequence of the first feed is

- A) Knit on all dials and all cylinder needles
- B) Knit only on all dial needles
- C) Knit only on all cylinder needles
- D) Knit on all dials or all cylinder needles

52. The most widely used needle-selecting jacquard mechanism is

- A) Pattern drum
- B) Multi-step pattern drum
- C) Pattern wheel
- D) Multi-step pattern wheel

53. The density of Polyester fiber in g/cm^3

- A) 1.14
- B) 1.38
- C) 1.36
- D) 1.17

54. The trick plate is also called as

- A) Knock over comb
- B) Sinkers
- C) Knock over bar
- D) Comber

55. Consider the following statements:

1. Vertical columns of loops are called Wales
2. Wales is related to Woven fabrics

The correct statements are

- A) 1 only
- B) Both
- C) 2 only
- D) Neither

56. _____ convert the rotatory machine drive into reciprocating action for the needles
- A) Sinker
 - B) Cam
 - C) Cylinder
 - D) Cam drive
57. Composition of cellulose in a mature cotton fiber (%)
- A) 88-96.5
 - B) 72-80.3
 - C) 90-96.5
 - D) 75-80.3
58. The protein _____ is the gummy substance that holds the silk fiber together
- A) Fibroin
 - B) Glycine
 - C) Alanine
 - D) Serine
59. Rot Steeping method of desizing is carried out at a temperature of about
- A) 70-80°
 - B) 30-40°
 - C) 100°
 - D) 50-60°
60. About 90% of wool wax can be removed using _____ scouring
- A) Suint scouring
 - B) Solvent extraction scouring
 - C) Emulsion scouring
 - D) Refrigeration process

61. Example of reductive bleaching agent

- A) Potassium Permanganate
- B) Chloramine
- C) Sodium hydrosulphite
- D) Sodium chlorite

62. Consider the following statements:

Assertion (A) : Heat setting is done in polyester fabrics.

Reason (R) : Heat setting imparts crease resistance and Elasticity.

- A) A and R are both correct and R is NOT the correct explanation of A
- B) A and R are both correct and R is the correct explanation of A
- C) A is correct, but R is NOT correct
- D) A is NOT correct, but R is correct

63. Damage to cellulose during the pre-treatment process can be detected by

- A) Copper Number
- B) Methylene blue absorption
- C) Only (A)
- D) Both (A) & (B)

64. The measure of the strength of the bonds by which the dye is held to the fiber is called

- A) Heat of dyeing
- B) Rate of dyeing
- C) Kinetics of dye absorption
- D) Both (A) & (C)

65. Commercially important transfer printing method

- A) Film release
- B) Melt transfer
- C) Wet transfer
- D) Sublimation transfer

66. The most widely used reducing agents in discharge printing are
- A) Formaldehyde sulphonylates
 - B) Thiosulphites
 - C) Nascent hydrogen
 - D) All the above
67. _____ is the method of selecting samples from a bulk of loose fibers
- A) Zoning
 - B) Length biased sampling
 - C) Numerical sampling
 - D) All the above
68. The moisture content of the textile fibers affects _____ properties
- A) Mechanical
 - B) Electrical
 - C) Only (A)
 - D) Both (A) & (B)
69. With an increase in relative humidity, the moisture regain % of the fiber
- A) Increases
 - B) Decreases
 - C) Remains constant
 - D) Either increase or decrease depending on the nature of the fiber
70. In order to carry out accurate physical testing of textiles the relative humidity should be maintained at
- A) $65 \pm 2\%$
 - B) $67 \pm 2\%$
 - C) $70 \pm 2\%$
 - D) $75 \pm 2\%$

71. Uniformity Index is calculated using the formula
- A) $UI = (50\% \text{ Span Length} / 2.5\% \text{ Span Length}) * 100$
 - B) $UI = (2.5\% \text{ Span Length} / 50\% \text{ Span Length}) * 100$
 - C) $UI = 2.5\% \text{ Span Length} * 100$
 - D) $UI = 50 * \text{Span Length} * 100$
72. Decitex is defined as weight in grams per
- A) 1000 meters
 - B) 10000 meters
 - C) 10 meters
 - D) 100 meters
73. _____ shrinkage results from the frictional properties of the fibers which cause them to migrate within the structure.
- A) Dimensional shrinkage
 - B) Swelling shrinkage
 - C) Felting shrinkage
 - D) Relaxation shrinkage
74. The thermal conductivity of textiles is measured using
- A) Tog meter
 - B) Thermometer
 - C) HVI
 - D) Kawabata evaluation system
75. _____ is the ratio of the small change in bending moment per unit width of the material to the corresponding small change in curvature.
- A) Bending modulus
 - B) Bending rigidity
 - C) Flexural rigidity
 - D) Bending moment

76. Match the fiber with a suitable dye class

- | | |
|--------------|--------------|
| 1) Viscose | i) Acid |
| 2) Cotton | ii) Reactive |
| 3) Polyester | iii) Vat |
| 4) Silk | iv) Disperse |

The correct match is

- | | | | | |
|----|------|------|------|-----|
| | 1 | 2 | 3 | 4 |
| A) | ii) | iii) | iv) | i) |
| B) | ii) | i) | iii) | iv) |
| C) | iv) | iii) | ii) | i) |
| D) | iii) | ii) | i) | iv) |

77. Which is not an after-treatment of direct dyed material?

- A) Diazotization and Coupling
- B) Coupling with Diazotized Amine
- C) Curing treatment
- D) Treatment with formaldehyde

78. Consider the following statements:

Assertion (A): The fastness to washing of azoic combination dyeings on cotton is usually Good to Excellent

Reason (R): Azoic dye is preferable to polyester fibers

- A) A and R are both correct and R is NOT the correct explanation of A
- B) A and R are both correct and R is the correct explanation of A
- C) A is correct, but R is NOT correct
- D) A is NOT Correct, but R is correct

79. Sulphur dyes have

- A) Low molecular weight and variable composition
- B) High molecular weight and variable composition
- C) High molecular weight and uniform composition
- D) Low molecular weight and uniform composition

80. As per chemical composition, vat dyes are classified as

- A) Indigoid
- B) Anthraquinonoid
- C) Both (A) & (B)
- D) Only (A)

81. Basic dyes are soluble salts of colored bases
- A) Anionic
 - B) Cationic
 - C) Non-ionic
 - D) Both (A) & (B)
82. Disperse dyes are classified based on the
- A) Chromophoric group
 - B) Alkine group
 - C) Non-chromophoric group
 - D) All the above
83. Reactive dyes have _____
- A) Poor chemical binding
 - B) Good chemical binding
 - C) Very high chemical binding
 - D) Moderate chemical binding
84. _____ Machine is suitable for tension-sensitive fabrics like knit and viscose.
- A) Winch
 - B) Jigger
 - C) Jet
 - D) Padding mangle
85. Reactive dyes form - bonds
- A) Ionic bond
 - B) Hydrogen bond
 - C) Vander waals force
 - D) Covalent bond
86. Most commonly used dyes for sports wear
- A) Direct dyes
 - B) Disperse dyes
 - C) Reactive dyes
 - D) Basic dyes

87. Transfer printing is done at a temperature of about
- A) 160-220°C
 - B) 100-150°C
 - C) 200-250°C
 - D) 90-120°C
88. _____ can be defined as relating and visually arranging components or elements to create effects.
- A) Design
 - B) Balance
 - C) Movement
 - D) Repetition
89. _____ is a sense of stability when applied to opposing visual attractions or forces.
- A) Balance
 - B) Movement
 - C) Repetition
 - D) Contrast
90. _____ is where a design is repeated across a fabric width so that both halves are the same.
- A) Pattern
 - B) Centring
 - C) Repeating
 - D) Movement
91. The English count (Ne) of 100 Nm (metric count) is
- A) 59
 - B) 169
 - C) 16.9
 - D) 590
92. Warp Cover factor in fabric (Cw) is -
- A) Warp Count (Nw)/Warp diameter(d)
 - B) Warp Count (Nw)+Warp diameter(d)
 - C) Warp Count (Nw)*Warp diameter(d)
 - D) Warp Count (Nw)*Warp diameter(d)*Crimp

93. The amount of crimp in each yarn can be largely controlled by controlling the _____ during weaving.

- A) Well insertion rate
- B) Yarn tension
- C) Weave pattern
- D) Cover factor

94. _____ can be defined as the ability of a fabric to bend under its own weight to form folds.

- A) Stiffness
- B) Bending rigidity
- C) Flexural rigidity
- D) Drape

95. Consider the following statements:

Assertion (A): Spirality is a fault associated with knitted fabric

Reason (R): Spirality in the fabric is due to the twist liveliness of the yarn.

- A) A and R are both correct and R is NOT the correct explanation of A
- B) A and R are both correct and R is the correct explanation of A
- C) A is correct, but R is NOT correct
- D) A is NOT Correct, but R is correct

96. Consider the following statements:

1. Hygral Expansion is a property of fabrics made from fibers that absorb moisture, in particular fabrics made from wool.
2. Felting shrinkage is associated with Wool fabric

The correct statements are

- A) 1 only
- B) 2 only
- C) Both
- D) Neither

97. _____ is a condition that arises in wear due to the formation of entangled fiber clinging to the fabric surface giving it an unsightly appearance.
- A) Snagging
 - B) Pilling
 - C) Shrinkage
 - D) Abrasion
98. The insulation value of clothing is mainly dependent on its thickness and it can be estimated from the relationship:
- A) $\text{Clo} = 1.6 \times \text{thickness in cm}$
 - B) $\text{Clo} = 1.6 \times \text{thickness in inches}$
 - C) $\text{Thickness in cm} = 1.6 \times \text{clo}$
 - D) $\text{Thickness in inches} = 1.6 \times \text{clo}$
99. The reciprocal of air permeability is _____
- A) Water permeability
 - B) Air resistance
 - C) Air flow
 - D) Air turbulence
100. The higher the drape coefficient the _____ the fabric.
- A) Limpy
 - B) Stiffer
 - C) Permeable
 - D) Impermeable
-

ROUGH WORK

ROUGH WORK