

Textile Engineering 29th March 2025 Shift3

Time Allowed :1.5 Hours	Maximum Marks :300	Total questions : 75
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General Instructions

General Instructions:

1. Question Paper contains 75 Questions .
2. Each correct answer will have +4 marks and wrong answer will lead to -1

1. In _____, the package is driven in frictional contact with the drum.

- (A) Drum driven winding
 - (B) Spindle driven winding
 - (C) Pirn winding
 - (D) Weft winding
-

2. In _____, the yarn passes through two plates in which one plate is the baseplate and the other is a weighing plate.

- (A) Electronic tensioner
 - (B) Additive type tensioner
 - (C) Multiplicative type tensioner
 - (D) Roller tensioner
-

3. In case of plain weave fabric, the respective warp and weft counts are 30 tex and 20 tex, with 40 ends per cm and 30 picks per cm. The warp has 10% crimp and weft also 10% crimp. Calculate the weight of fabric in grams/square meter.

- (A) 178
 - (B) 188
 - (C) 198
 - (D) 208
-

4. In _____ system, a warping beam with a complex pattern of colored stripes is obtained.

- (A) Direct beam warping
 - (B) Ball warping
 - (C) Sectional warping
 - (D) Warp sizing machine
-

5. In the slasher sizing machine, the principle involved in drying the wet warp sheet by physical contact with a hot drum surface is _____.

- (A) Conduction
 - (B) Convection
 - (C) Radiation
 - (D) Combined convection and radiation
-

6. To prevent the growth of microorganisms, _____ is added to the size paste.

- (A) Adhesive material
 - (B) Softener
 - (C) Antistatic agent
 - (D) Antiseptic agent
-

7. The material flow of the warp sheet through different zones in a sizing machine is _____.

- A. Drying zone**
 - B. Size box zone**
 - C. Beaming zone**
 - D. Creel zone**
- (A) A, C, B, D
 - (B) D, B, A, C
 - (C) C, A, D, B
 - (D) B, D, C, A
-

8. The _____ machine is used to produce a suitable package of weft yarn for a shuttle loom.

- (A) Pirn winding
 - (B) Cone winding
 - (C) Sectional warping
 - (D) Two for one twister
-

9. Match Type of shed with Position of warps.

LIST I**Type of shed**

A. Fully open shed

B. Semi-open shed

C. Center closed shed

D. Bottom closed shed

LIST II**Position of warps**

I. All warp returns to mid-position before the next shedding

II. All ends come down to the bottom position before the next shedding

III. Unnecessary movements of the warps are avoided

IV. A few healds move half the distance from the depth of the shed and go back to their top position for next shedding

(A) A-II, B-III, C-I, D-IV

(B) A-III, B-II, C-IV, D-I

(C) A-III, B-IV, C-I, D-II

(D) A-II, B-I, C-IV, D-III

10. In _____, an external device is required to close the hook of needle during loop formation.

(A) Latch Needle

(B) Compound Needle

(C) Bearded Needle

(D) Sewing Needle

11. In _____ weft knitting machine, the needles in the two beds are not face to face but needles in one bed are in between the needles of the other bed.

(A) Single jersey circular machine

(B) Rib knitting

(C) Interlock knitting

(D) Purl knitting

12. In the warp knitting machine, _____ of the guide bar takes place either from the front of the needles to the back or from the back of the needles to the front.

- (A) Swinging motion
 - (B) Shogging motion
 - (C) Vertical motion
 - (D) Circular motion
-

13. In nonwoven fabric manufacturing, the melt spinning process produces _____.

- (A) Spun bonded web
 - (B) Aerodynamically formed web
 - (C) mechanically formed web
 - (D) wetlaid web
-

14. Match Direction with Orientation of fibers on the web.

LIST I

Direction

- A. Longitudinal orientation
- B. Transverse orientation
- C. Cross directional web
- D. Random oriented web

LIST II

Orientation of fibers

- I. Not oriented
- II. Fibres laid in machine direction and width-wise directions
- III. Fibres laid in a machine direction
- IV. Fibres laid in a width-wise direction

- (A) A - IV, B - I, C - III, D - II
 - (B) A - II, B - III, C - I, D - IV
 - (C) A - I, B - II, C - IV, D - III
 - (D) A - III, B - IV, C - II, D - I
-

15. In non-woven fabric manufacturing, the surgical face masks are produced by _____.

- (A) Spunbond technology
 - (B) Meltblown technology
 - (C) Carded web
 - (D) Wet laid technology
-

16. Calculate the production per shift of 8 hrs of a loom running at 200 picks/min with 90% efficiency. The number of picks per inch inserted in the cloth is 56.

- (A) 10.4 yards
 - (B) 20.0 yards
 - (C) 30.0 yards
 - (D) 42.86 yards
-

17. In _____ mechanism, the shuttle passes through the shed from one shuttle box to the opposite shuttle box.

- (A) Shedding
 - (B) Picking
 - (C) Beat up
 - (D) Let off
-

18. In _____ rapier, the gripper heads are propelled by flexible tape.

- (A) Telescopic
 - (B) Double bonded rigid
 - (C) Flexible
 - (D) Single head rigid
-

19. In case of weft knitted fabric _____ structure, each wale consists of alternate face and back loops.

- (A) Rib

- (B) Plain single jersey
 - (C) Interlock
 - (D) Purl
-

20. A cotton fabric is treated with a finishing chemical of 6.0 % concentration. If the wet pick up is 80 %, the add-on of chemical on fabric is _____.

- (A) 1.48 %
 - (B) 4.8 %
 - (C) 3.48 %
 - (D) 0.48 %
-

21. The process of removal of protruding fibers from the surface of fabric is called as _____.

- (A) Singeing
 - (B) Bleaching
 - (C) Shearing
 - (D) Cropping
-

22. Match Machine with Principle.

LIST I Machine	LIST II Principle
A. Tub dyeing	I. Moving the textile material through the stationary dye liquor.
B. Jigger dyeing	II. Pumping the dye liquor through the stationary textile.
C. Package dyeing	III. Moving the textile material and dyeing liquor simultaneously.
D. Jet dyeing	IV. Textile materials and dye liquor are stationary.

- (A) A - IV, B - I, C - II, D - III

- (B) A - I, B - III, C - II, D - IV
(C) A - I, B - II, C - IV, D - III
(D) A - III, B - I, C - IV, D - II
-

23. Objectives of scouring of cotton.

- A. To remove natural fatty matter from textiles.**
B. To remove added fatty matter from textiles.
C. To remove pectins from textiles.
D. To remove coloring matter from textiles.

- (A) A, B and D only
(B) A and C only
(C) A, B, C and D
(D) C and D only
-

24. Process sequence for polyester/wool blended knitted goods (Crisp handle).

- A. Light brushing.**
B. Open steam (allowing full relaxation).
C. Decatising.
D. Close cropping on face side of fabric.

- (A) A, B, C, D
(B) A, C, B, D
(C) B, A, D, C
(D) C, B, D, A
-

25. The reactive dyes are applied to Cellulosic fiber in an alkaline dyeing bath, by chemically reacting to form _____ with the hydroxyl group of the fiber.

- (A) Salt linkage
(B) Hydrogen bond
(C) Ionic bond
(D) Covalent bond

26. Desizing of a grey cotton fabric having a starch-based size can not be done using _____.

- (A) Amylase enzyme
 - (B) Dilute hydrochloric acid
 - (C) DMDHEU
 - (D) Hydrogen peroxide
-

27. Which among the following is not a characteristic of a binder?

A. Capable of application by dry cure to form a film, trapping the pigment on the surface of the substrate

B. Provide adhesion of the pigment to the substrate surface

C. Able to crosslink in order to form a protective film

D. Non-elastic properties to allow for bending and stretching of the substrate after printing

- (A) A
 - (B) B
 - (C) C
 - (D) D
-

28. The Pad - Dry - Cure process is followed in _____.

- (A) Reactive Dyeing
 - (B) Pigment dyeing
 - (C) Vat dyeing
 - (D) Direct dyeing
-

29. The after treatment of certain direct dyes with 0.25-2% copper sulphate and 1% acetic acid for 20-30 mins at 60°C to improve _____.

- (A) Washing fastness
- (B) Light fastness

- (C) Light and washing fastness both
 - (D) Perspiration fastness
-

30. Vatting process does not accelerate due to _____.

- (A) Temperature
 - (B) Concentration of alkali
 - (C) Concentration of reducing agent
 - (D) Time
-

31. The light fastness of azoic dyed material decreases mainly due to _____.

- (A) Depth of color
 - (B) Type of fabric
 - (C) Humidity
 - (D) Type of substrate
-

32. In the pad-steam process of vat dye, intermediate drying is carried out for _____.

- (A) Better fixation
 - (B) Prevention of pigment migration
 - (C) Increase in color depth
 - (D) Avoiding color change
-

33. Which dye is responsible for tendering of cotton?

- (A) Reactive dye
 - (B) Basic dye
 - (C) Sulphur dye
 - (D) Azoic dye
-

34. The maximum damage to cotton in sodium hypochlorite is found at _____ pH.

- (A) 3 to 4
 - (B) 5 to 6
 - (C) 7 to 8
 - (D) 9 to 10
-

35. _____ has the highest Biological Oxygen Demand (BOD).

- (A) Corn starch
 - (B) British gum
 - (C) C. M. C.
 - (D) Polyvinyl alcohol
-

36. In wet spinning process, the solvent removal and fiber solidification takes place during _____ stage.

- (A) Drawing
 - (B) Wet coagulation
 - (C) Span finish
 - (D) Heat setting
-

37. The Transmission Electron Microscopy (TEM) is used for the study of _____ structure of fibrous material.

- (A) Surface
 - (B) Internal
 - (C) Localised
 - (D) External
-

38. The term wash and wear is used in the case of polyester fiber due to its _____.

- (A) High amorphousity and high water absorption
- (B) Low crystalline and low water absorption
- (C) Poor water absorption and high crease recovery
- (D) High water absorption and low crease recovery

39. The glass fiber is _____ fiber.

- (A) Protein
- (B) Inorganic
- (C) Cellulosic
- (D) Elastomeric

40. The wool fiber exhibits high elastic recovery among the natural fibers due to its _____.

- (A) Strong inter-molecular linkages
- (B) Weak lateral forces
- (C) Poor molecular arrangement
- (D) High crystalline region

41. The outstanding features of polyamide fiber are _____.

- A. Good dimensional stability.**
- B. High wet modulus.**
- C. High resistance to alkali.**
- D. Low strength and high elongation.**

- (A) A, B and D only
- (B) A, B and C only
- (C) A, B, C and D
- (D) B, C and D only

42. Arrange the following transition temperatures given by Differential Scanning Calorimetry (DSC) in ascending order.

- A. Melting temperature**
- B. Crystallization temperature**
- C. Degradation temperature**
- D. Glass transition temperature**

- (A) D, B, A, C
(B) A, C, B, D
(C) B, A, D, C
(D) C, B, D, A
-

43. Match Fibre with Application.

LIST I	LIST II
Fibre	Application
A. Silk fibre	I. Fire retardant
B. Wool fibre	II. Directional lustre
C. Nomex fibre	III. Bulletproof
D. Kevlar fibre	IV. Thermal insulation

- (A) A - I, B - II, C - III, D - IV
(B) A - II, B - III, C - II, D - IV
(C) A - II, B - IV, C - I, D - III
(D) A - III, B - I, C - IV, D - II
-

44. The monomer used in the manufacture of Nylon 6 fiber is _____.

- (A) Hexamethylene diamine
(B) Adipic acid
(C) Caprolactam
(D) Terephthalic acid
-

45. On mercerization, moisture regain of cotton fiber _____.

- (A) Decreases
(B) Remain unchanged
(C) Increases
(D) Indeterminate
-

46. The essential requirements of fiber forming polymers are _____.

- A. Linear polymer**
- B. Three dimensional polymer**
- C. High molecular weight**
- D. Strong lateral forces**

- (A) A, B and D only
 - (B) A, B and C only
 - (C) A, C and D only
 - (D) A, C and D only
-

47. The acrylic fiber is called artificial wool due to _____ formed on removal of solvent during manufacturing.

- (A) Twist
 - (B) Serrations
 - (C) Voids
 - (D) Faults
-

48. The objective of the filament drawing process is to improve the _____ of a fibre.

- (A) Crystallinity
 - (B) Molecular orientation
 - (C) Density
 - (D) Thickness
-

49. The melting temperature of Nylon 6 fiber is _____.

- (A) 180° C
 - (B) 120° C
 - (C) 218° C
 - (D) 265° C
-

50. The primary functions of Spin finish are _____.

- A. Lubrication of fiber surface**

B. Drawing of filaments

C. Antistatic action

D. Cohesion of filaments

(A) A, C and D only

(B) A, B and C only

(C) A, B, C and D

(D) B, C and D only

51. The strength of yarn decreases with the increase in specimen length due to more chances of the occurrence of _____ places in longer specimen.

(A) Faults

(B) Strong

(C) Weak

(D) Very strong

52. The KES-FB module of Kawabata hand evaluation instruments gives _____.

A. Linearity of the load elongation curve.

B. Compression resilience.

C. Tensile energy.

D. Bending rigidity.

(A) A, C and D only

(B) A, B and C only

(C) A, B, C and D

(D) A, B and D only

53. The control and reduction of short fiber content have a direct impact on _____ in a yarn.

(A) Thin places

(B) Thick places

(C) Long thin places

(D) Neps

54. The periodic mass variations in yarn are mainly caused by _____.

- (A) Machine faults
 - (B) Machine setting
 - (C) Random fiber arrangement
 - (D) Personal error
-

55. Match the LIST I with LIST II.

LIST I	LIST II
A. Tear strength	I. Contact angle test
B. Water repellency	II. Periodic faults
C. Seldom occurring faults	III. Impact principle
D. Spectrogram	IV. Classimat

- (A) A - I, B - II, C - III, - D - IV
 - (B) A - I, B - III, C - II, - D - IV
 - (C) A - III, B - I, C - IV, - D - II
 - (D) A - III, B - I, C - IV, - D - II
-

56. The cotton fiber exhibits poor crease recovery due to _____.

- (A) Strong lateral linkages
 - (B) Flexible polymer chain
 - (C) Weak lateral linkages
 - (D) Breakage of polymer chains
-

57. With all other parameters constant, the fabric with a low cover factor effectively transmits water vapor by a diffusion mechanism in comparison with that of fabric with a high cover factor due to _____.

- (A) More air space
- (B) Less thickness

- (C) High thickness
 - (D) Less air space
-

58. The strength of fiber is usually measured in bundle form because there is better correlation between fiber bundle strength and _____.

- (A) Yarn hairiness
 - (B) Yarn unevenness
 - (C) Yarn strength
 - (D) Yarn twist
-

59. The thermal insulation of clothing mainly depends on fabric _____.

- (A) Thickness
 - (B) Stiffness
 - (C) Crease recovery
 - (D) Weight
-

60. A 100-meter skein of polyester filament yarn weighs 2.5 grams, calculate its tex number.

- (A) 12 tex
 - (B) 25 tex
 - (C) 17 tex
 - (D) 21 tex
-

61. The electrical conductivity of fiber _____ on increase in moisture absorption.

- (A) increases
 - (B) decreases
 - (C) unchanged
 - (D) affected
-

62. In the fineness measurement by Sheffield micronaire instrument, the flow of air through a plug of fibers is related to _____ of fiber.

- (A) Area of cross section
 - (B) Perimeter
 - (C) Weight per unit length
 - (D) Specific surface
-

63. Which of the following methods are indirect methods for determining the maturity of cotton fibers?

- A. Polarised light method**
- B. Causticare method**
- C. Differential dyeing method**
- D. Caustic Soda swelling method**

- (A) Only A, B and D
 - (B) Only A, B and C
 - (C) Only C and D
 - (D) All A, B, C and D
-

64. In the twisting zone, if the rear end of the fiber is not in the nip of the delivery rollers of the ringframe, the fiber will be under no control, which causes _____.

- (A) Hairiness
 - (B) Nep
 - (C) Thick place
 - (D) Nap
-

65. The heart loop test of measurement of fabric stiffness is especially used for _____ fabrics.

- (A) Heavy
- (B) Stiff
- (C) Limpy

(D) Knitted

66. Choose the correct answer from the options given below:

Arrange the machines of a ring spinning line in the sequence.

A. Ring Frame

B. Carding

C. Speed frame

D. Draw frame

(A) A - I, B - II, C - III, D - IV

(B) A - III, B - I, C - II, D - IV

(C) A - II, B - I, C - IV, D - III

(D) A - III, B - I, C - IV, D - II

67. Match the LIST-I with LIST-II.

LIST-I	LIST-II
Machine part	Function
A. Taker-in	I. Individualisation of fibres
B. Cylinder	II. Takes the fibers from cylinder surface
C. Flats	III. Pluck the flocks from feed roller
D. Doffer	IV. Elimination of neps

(A) A, B and D only

(B) A, B and C only

(C) A, B, C and D

(D) C and D only

68. Choose the correct tasks of the rotor spinning machine.

A. Fibre separation

B. Ordering the fibres in the strand

C. Imparting strength by twisting

D. Removal of neps

- (A) Airjet spinning
- (B) Ring spinning
- (C) Open end spinning
- (D) Friction spinning

69. In _____ modern spinning system, the rotation of yarn arises from the rotary movement of the two drums and is generated by frictional contact at the drum surface.

- (A) Middle and front rollers
- (B) Front roller and spindle
- (C) Back and middle rollers
- (D) Cool and back roller

70. In the drafting system of a ring frame, the break draft is applied between _____.

- (A) Middle and front rollers
- (B) Front roller and spindle
- (C) Back and middle rollers
- (D) Cool and back roller

71. Match the LIST-I with LIST-II

LIST-I	LIST-II
Machine	Material
A. Blow room	I. Sliver
B. Carding	II. Yarn
C. Speed frame	III. Lap
D. Ring frame	IV. Roving

- (A) A - I, B - II, C - III, D - IV
- (B) A - I, B - III, C - II, D - IV

(C) A - III, B - I, C - IV, D - II

(D) A - III, B - I, C - II, D - IV

72. On a _____ machine, two or more single yarns are plied and twisted together.

(A) Ring frame

(B) Two for one twister

(C) Yarn winding

(D) Speed frame

73. In the spinning process, a precisely predetermined quantity of short fibers are eliminated in _____.

(A) Comber

(B) Draw frame

(C) Speed frame

(D) Carding

74. The main objective of the ginning process is _____.

(A) Separation of seeds from cotton fibers

(B) Opening and cleaning

(C) Trash removal

(D) Parallelization of fibers

75. In a ring bobbin, the actual yarn weight is 75 grams with count 30 tex, calculate the length of the yarn in meters.

(A) 7500 meters

(B) 250 meters

(C) 25 meters

(D) 2500 meters
