VERSION CODE	Maximum Marks : 100 Total Duration : 150 Minutes Maximum Time For Answering : 120 Minutes Subject : **TEXTILE TECHNOLOGY**	Serial Number : 123525
A1	MENTION YOUR PGCET NUMBER	Subject Code **P-TT**

P-TT A1

DOs:

1. This question booklet is issued to you by the invigilator **after 02.20 pm.**
2. Check whether the PGCET Number has been entered and shaded in the respective circles on the OMR answer sheet.
3. The version code and serial number of this question booklet should be entered on the OMR answer sheet and the respective circles should also be shaded completely.
4. The Version Code and Serial Number of this question booklet should be entered on the Nominal Roll without any mistakes.
5. Compulsorily sign at the bottom portion of the OMR answer sheet in the space provided.

DON'Ts:

1. **The timing and marks printed on the OMR answer sheet should not be damaged / mutilated / spoiled.**
2. **The 3rd Bell rings at 2.30 p.m., till then;**
   - Do not remove the seal present on the right hand side of this question booklet.
   - Do not look inside this question booklet or start answering on the OMR answer sheet.

IMPORTANT INSTRUCTIONS TO CANDIDATES

1. In case of usage of signs and symbols in the questions, the regular textbook connotation should be considered unless stated otherwise.
2. This question booklet contains 75 questions and each question will have one statement and four different options / responses & out of which you have to choose one correct answer.
3. After the 3rd Bell is rung at 02.30 pm, remove the paper seal on the right hand side of this question booklet and check that this booklet does not have any unprinted or torn or missing pages or items etc., if so, get it replaced by a complete test booklet. Read each item and start answering on the OMR answer sheet.
4. Completely **darken / shade** the relevant circle with a **blue** or **black ink ballpoint pen against the question number on the OMR answer sheet.**

ಸರಿಯಾದ ಕ್ರಮ CORRECT METHOD	ತಪ್ಪು ಕ್ರಮಗಳು WRONG METHOD
Ⓐ ● Ⓒ Ⓓ	⊗ Ⓑ Ⓒ Ⓓ Ⓐ Ⓑ Ⓒ ⊘ Ⓐ ● ● Ⓓ ◐ Ⓑ Ⓒ Ⓓ Ⓐ ◉ Ⓒ Ⓓ

5. Please note that even a minute unintended ink dot on the OMR answer sheet will also be recognized and recorded by the scanner. Therefore, avoid multiple markings of any kind on the OMR answer sheet.
6. Use the space provided on each page of the question booklet for Rough Work. Do not use the OMR answer sheet for the same.
7. **Last bell will ring at 4.30 pm,** stop marking on the OMR answer sheet.
8. Hand over the **OMR answer sheet** to the room invigilator as it is.
9. After separating the top sheet (KEA copy), the invigilator will return the bottom sheet replica (candidate's copy) to you to **carry home for self-evaluation.**
10. Only **Non-programmable** calculators are allowed for "M.E. / M.Tech / M.Arch." examination.

Marks Distribution	PART-1 : 50 QUESTIONS CARRY ONE MARK EACH (1 TO 50)
	PART-2: 25 QUESTIONS CARRY TWO MARKS EACH (51 TO 75)

TEXTILE TECHNOLOGY

PART - 1

(Each question carries one mark) **(50 × 1 = 50)**

1. Polymerization technique in which possibility of low molecular weight polymer formation due to chain-transfer is very common in

   (A) Solution

   (B) Suspension

   (C) Bulk

   (D) Melt condensation

2. Theoritical extent of reaction in bi-bi and tri-bi functional monomers is ___ and ___% respectively (Assume Dp = ∞)

   (A) 100 and 80

   (B) 80 and 100

   (C) 100 in both

   (D) 80 in both

3. Spin drawing is used generally to produce tyre cord grade filament yarn. In this process

   (A) spinning and drawing are carried out in a single step.

   (B) Melt spinning is done at lower speed followed by drawing at higher speed.

   (C) Melt spinning is done at higher speed followed by drawing at higher speed.

   (D) Spinning and drawing speeds differ based on the required draw ratio.

4. In the context of textile fibres, choose the INCORRECT statement among the following:

   (A) Swelling of fibres is not anisotropic.

   (B) Wool fibre has higher breaking elongation than silk fibre.

   (C) PET fibre is thermoplastic.

   (D) Cotton fibres do not melt.

5. Nylon-6, Nylon-66, wool and silk can all be classified as

   (A) Polyesters

   (B) Polycellulosis

   (C) Polyamides

   (D) Polyethers

6. Correct sequence of major steps in the production of viscose rayon is

   (A) Steeping - Shredding - Xanthation - Ageing - Dissolution - Ripening - Spinning

   (B) Steeping - Shredding - Ageing - Dissolution - Xanthation - Ripening - Spinning

   (C) Steeping - Shredding - Ageing - Dissolution - Ripening - Xanthation - Spinning

   (D) Steeping - Shredding - Ageing - Xanthation - Dissolution - Ripening - Spinning

Space For Rough Work

7. The monomer/s that actually polycondense/s during polymerization of Nylon-6 is/are

(A) Acetic Acid

(B) HMDA (Hexamethylene diamine)

(C) A-H (N-66) Salt

(D) Adipic Acid (AA)

8. Water is added to Caprolactam during the polymerization of Nylon-6. Its main role is that of a

(A) Catalyst

(B) Stabilizer

(C) Solvent

(D) Antistotic Agent

9. In dyeing of wool with levelling dyes, with time, the pH of dye bath

(A) increases

(B) decreases

(C) remains constant

(D) first increases and then decreases

10. Limiting Oxygen Index is determined to test the efficiency of

(A) wash and wear finish

(B) waterproof finish

(C) flame retardent finish

(D) mothproof finish

11. Singeing of polyester is carried out to

(A) increase strength

(B) reduce pilling

(C) improve dye uptake

(D) improve dimensional stability

12. Jigger cannot be used for

(A) Dyeing

(B) Printing

(C) Washing

(D) Scouring

Space For Rough Work

13. Sodium Chlorite bleaching of cotton is carried out in the temperature range of

(A) 95 – 110°C

(B) 80 – 85°C

(C) 50 – 60°C

(D) 30 – 40°C

14. The efficacy of the wash-n-wear treatment can be estimated by measuring its

(A) Bending length

(B) Tensile strength

(C) Dye uptake

(D) Crease recovery

15. Jet dyeing machines are built to be used with the material to liquor ratio of

(A) 1 : 1

(B) 1 : 50

(C) 1 : 30

(D) 1 : 8

16. The essential steps in carbonization of wool is/are treatment with

(A) dilute sulphuric acid and baking

(B) reducing agent followed by antichlor treatment

(C) Carbon tetrachloride

(D) Activated carbon

17. During Beat-up, possibility of bumping increases if

(A) warp tension is low and cloth fell displacement is low

(B) warp tension is low and cloth fell displacement is high

(C) warp tension is high and cloth fell displacement is low

(D) warp tension is high and cloth fell displacement is high

18. In air jet weaving, the correct combination of parameters, on which drag force on weft yarn depends, is

1. weave pattern
2. density of air
3. weft yarn diameter
4. picks/cm

Answers:

(A) 1 & 2

(B) 2 & 3

(C) 3 & 4

(D) 1 & 4

Space For Rough Work

19. The groove drum in a random winder makes five revolutions for one double traverse. If the drum and package diameter are 10 cm and 5 cm respectively, the wind/double traverse would be

(A) 5

(B) 8

(C) 20

(D) 10

20. Size is primarily applied on warp yarn to

(A) increase yarn uniformity

(B) increase yarn elongation

(C) increase yarn modulus

(D) provide protective coating

21. Desizing of a grey cotton fabric having starch based size cannot be done using

(A) Amylase enzyme

(B) Dilute HCl

(C) Hydrogen peroxide

(D) DMDHEU

22. The stress on warp yarn in a Rapier weaving machine is NOT caused by

(A) Initial setup stress

(B) Shed formation

(C) Reed beat-up

(D) Weight of rapier head

23. The sizing of multifilament yarn is carried out to

(A) suppress the static development

(B) lubricate the yarn surface

(C) increase the strength of the yarn

(D) bind the filaments together

24. In air-jet loom

(A) all the relay nozzles start jetting at the same time

(B) each relay nozzle has separate jetting time

(C) relay nozzles of a group start jetting at the same time

(D) Main and relay nozzles have same jetting time

Space For Rough Work

25. Fibre to Fibre separation in carding is achieved between

(A) Feed roller and licker-in

(B) Cylinder and Doffer

(C) Cylinder and Flats

(D) Flats and Flat Cleaning Brush

26. Main objective of Comber is to

(A) Removal of Short fibres

(B) Removal of Impurities

(C) Removal of Good fibres

(D) Removal of Neps

27. The lift of bobbin in the Modern Speed Frame is

(A) 16"

(B) 12"

(C) 20"

(D) 25"

28. Mechanical draft on Ring frame is always

(A) equal to actual draft

(B) greater than actual draft

(C) less than actual draft

(D) none of these

29. If the bobbin speed of Ring frame is 10,000 rpm and winding on speed is 200 rpm, then the traveller speed of Ring frame is

(A) 10,200 rpm

(B) 10,400 rpm

(C) 9,800 rpm

(D) 9,500 rpm

30. Type of Traveller used in doubling frame is

(A) Ear shaped

(B) Elliptical

(C) C-shaped

(D) D-shaped

Space For Rough Work

31. The feeding material to open end spinning machine is

(A) Card Sliver with one Draw Frame passage

(B) Card Sliver with 2 draw Frame Passage

(C) Card Sliver directly

(D) Combed Sliver directly

32. Which of the following open end spinning was commercially accepted in the market?

(A) Vortex Assembly

(B) Rotor Assembly

(C) Axial Assembly

(D) Discontinuous Assembly

33. Arjuna is the host plant of _____

(A) Mulberry

(B) Philosamia

(C) Antheraea

(D) All

34. In Chandrika, the average density of worms is _____

(A) 40 – 50/sq.ft.

(B) 50 – 60/sq.ft.

(C) 20 – 30/sq.ft.

(D) 30 – 40/sq.ft.

35. Stifling process involves

(A) proper hatching

(B) proper cocooning

(C) killing of pupa inside the cocoon

(D) putting cocoons in warm water

36. Reeling of silk is _____

(A) a process of making silk reels

(B) spinning of silk fibres

(C) weaving silk cloth

(D) process of taking silk filaments from cocoon

Space For Rough Work

37. Yarn parallel to sledge and right angle to the cross grain of woven fabric is called _____

(A) cross grain

(B) balance line

(C) bias

(D) length grain

38. _____ is the line drawn on each pattern piece to indicate how the pattern should be aligned with the length grain of the fabric.

(A) True Bias

(B) Thick line

(C) Pattern grain line

(D) Arrows

39. A sleeve cut wide at the arm hole and tapering to the wrist is _____

(A) Dolman sleeve

(B) Puff sleeve

(C) Plain sleeve

(D) Tulip sleeve

40. Hand Embroidery would be suitable method of fabric decoration for which of the following end-uses?

(A) Fashion articles, corporate wear and wall hangings

(B) Cushions, christening gowns and wall hangings

(C) Hand towels, school uniforms and high-end fashion

(D) Beach towels, tents and cushions

41. Type of Seam Class used for edge neatening:

(A) Class–4

(B) Class–6

(C) Class–3

(D) Class–5

42. With increase in moisture regain in textile materials

(A) electrical resistance increases

(B) electrical resistance decreases

(C) electrical resistance remains same

(D) static electricity increases

Space For Rough Work

43. Fibrograph is an automated method of measurement of

(A) maturity of cotton fibre

(B) fineness of wool fibre

(C) length of cotton fibre

(D) strength of cotton fibre

44. What is the meaning of linear density in metric count (Nm)?

(A) Number of meter lengths per gram

(B) Number of meter lengths per kilogram

(C) Number of 100-meter lengths per kilogram

(D) Number of 560-yard lengths per Pound

45. Optimum twist in balanced double yarn should be around

(A) 30% of single yarn twist

(B) 50% of single yarn twist

(C) 90% of single yarn twist

(D) 70% of single yarn twist

46. Uster hairiness tester works on

(A) Capacitance principle

(B) Light Scattering principle

(C) Impedance principle

(D) Electrical resistance principle

47. Spectrogram detects

(A) Periodic faults

(B) Random faults

(C) Objectionable faults

(D) Long thick faults

48. With continuous increase in yarn twist

(A) abrasion resistance increases continuously

(B) abrasion resistance decreases continuously

(C) Abrasion resistance first increases and then decreases

(D) Abrasion resistance remains same.

49. Togmeter is used to measure

(A) Air permeability of fabric

(B) Abrasion resistance of fabric

(C) Thermal conductivity of fabric

(D) Water vapour permeability

50. The ratio of grab strength/tensile strength per inch for a 2" strip varied from

(A) 0 – 1

(B) 1 – 2

(C) 0 – 2

(D) 3 – 4

Space For Rough Work

PART - 2

(Each question carries two marks) **(25 × 2 = 50)**

51. A polymer blend containing two components 'X' and 'Y' with 40% of 'X' and T_g of X and Y is 60°C and 80°C respectively. T_g of blend is approximately ____°C.

(A) 70

(B) 80

(C) 60

(D) 140

52. Consider the following Assertion and reason and choose the most appropriate answer:

Assertion (A): Sodium, cellulose, xantate formation is an essential unit operation in the production of Viscose rayon.

Reason(R): It helps to reduce degree of polymerization of Cellulose.

(A) A is right, R is wrong

(B) A is right, R is right

(C) A is wrong, R is wrong

(D) A is wrong, R is right

53. The Birefringence of fibre depends on

P. Degree of orientation of molecules

Q. Degree of Polymerization

R. Degree of asymmetry of molecules

S. Melting point of Polymer

The correct set of combination is

(A) P, Q

(B) P, R

(C) Q, R

(D) P, Q, R

54. A false twist texturing machine with a heater length of 1.75 m is operating at 1200 m/min. The residence time(s) in the heater would be

(A) 0.087 S

(B) 0.80 S

(C) 8.0 S

(D) 80 S

55. Most productive method for Textile printing is

(A) Rotary screen-printing

(B) Automatic flat bed screen printing

(C) Block printing

(D) Transfer printing

Space For Rough Work

56. Crease resistant finishing of cotton fabric does not lead to

(A) reduction in tensile strength

(B) increase in dimensional stability

(C) increase in moisture regain

(D) increase in bending length

57. Bleached cotton fabric was sent to a laboratory for determination of copper number, which is an estimate of the presence of

(A) Hydroxil groups

(B) Carboxyl groups

(C) Reducing groups

(D) Oxidising groups

58. A wool/acrylic blended fabric can be dyed to solid shade using a combination of

(A) Direct and acid dyes

(B) Vat and acid dyes

(C) Acid and basic dyes

(D) Reactive and direct dyes

59. Among the following options, the thickest classimat fault is

(A) B_3

(B) D_1

(C) E_1

(D) H_2

60. In a surface driven winding machine, with an increase in package diameter

(A) the winding speed would increase

(B) the coil angle would decrease

(C) the package rpm would go up

(D) the number of coils per double traverse would fall steadily

61. Weaving of heavy fabrics on wide looms is carried out preferably with a positive takeup motion of the type

(A) continuous indirect

(B) continuous direct

(C) intermittent indirect

(D) intermittent direct

Space For Rough Work

62. Plain weft knitted fabric will have more stretch along

(A) Length

(B) Width

(C) Bias direction

(D) Same stretch in all directions.

63. If the cleaning efficiency of Blow room is 90% for the trash of 8 gms in cotton mixing, then the trash present in lap is

(A) 1.2 gms

(B) 0.2 gms

(C) 0.8 gms

(D) 0.6 gms

64. Doffing unit present on MMC Card is named as

(A) Oscillating Comb unit

(B) Crosrol Varga unit

(C) India rol unit

(D) Planetory unit

65. If the sliver delivered from drawframe is 70 grains/yard, then its count in Direct System is

(A) 4.2 K.Tex

(B) 4.9 K.Tex

(C) 3.9 K.Tex

(D) 4 K.Tex

66. If two yarns of 40^s Ne is doubled, then the resultant count of double yarn is

(A) 80^s Ne

(B) 40^s Ne

(C) 10^s Ne

(D) 20^s Ne

67. Pebrine is caused by _____

(A) Beauveria

(B) Streptococcus

(C) Nosema

(D) Aspergillus

Space For Rough Work

68. _____ is the process of transforming a design into its constituents flat pattern pieces and then drafting them out

(A) Pattern making

(B) Draping

(C) Template

(D) Blocks

69. Dart manipulation of the front bodice consists of _____ types

(A) 13

(B) 4

(C) 6

(D) 8

70. One of the first _____ that is done on muslin at the time when the pattern is made.

(A) Fullness

(B) Test fit

(C) Final

(D) Finishing

71. These may be made from cording or braid _____

(A) Frog fastening

(B) Velcro

(C) Lacing

(D) Snap Fasteners

72. Uniformity ratio of normal cotton lies between

(A) 75 – 80%

(B) 80 – 90%

(C) 40 – 50%

(D) 20 – 30%

73. If the mass of 440 yards yarn lea is 10 gm, then the approximate cotton count of yarn (Ne) is

(A) 32.6

(B) 20.4

(C) 27.4

(D) 23.8

Space For Rough Work

74. In a tensile tester, the mean breaking load of 5.6 denier is 504 gt. What will be the tenacity of yarn in g/tex?

(A) 10

(B) 450

(C) 90

(D) 50.4

75. Resin treatments such as crease resistance finishes

(A) increase tearing resistance of woven fabrics

(B) reduce tearing resistance of woven fabrics

(C) will have no effect on tearing resistance of woven fabrics

(D) slightly increase tearing resistance of woven fabrics

Space For Rough Work

SPACE FOR ROUGH WORK