

PGCET-2014

TX

DAY and TIME		COURSE		SUBJECT	
DAY-1 10.30 am to 12.30 pm		ME/M.Tech/M.Arch courses offered by VTU/UVCE/UBDTCE		TEXTILE TECHNOLOGY	
SESSION : FORENOON					
MAXIMUM MARKS		TOTAL DURATION	MAXIMUM TIME FOR ANSWERING		
100		150 MINUTES	120 MINUTES		
MENTION YOUR PGCET NO.				QUESTION BOOKLET DETAILS	
				VERSION CODE	SERIAL NUMBER
				A - 2	140034

DOs :

1. Check whether the PGCET No. has been entered and shaded in the respective circles on the OMR answer sheet.
2. Ensure whether the circles corresponding to course and the specific branch have been shaded on the OMR answer sheet.
3. This Question Booklet is issued to you by the invigilator after the **2nd Bell i.e., after 10.25 a.m.**
4. The Serial Number of this question booklet should be entered on the OMR answer sheet.
5. The Version Code of this question booklet should be entered on the OMR answer sheet and the respective circles should also be shaded completely.
6. 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 10.30 a.m., till then;**
 - Do not remove the paper seal / polythene bag of this question booklet.
 - Do not look inside this question booklet.
 - Do not start answering on the OMR answer sheet.

IMPORTANT INSTRUCTIONS TO CANDIDATES

1. This question booklet contains 75 (items) questions and each question will have one statement and four answers. (Four different options / responses.)
2. After the **3rd Bell is rung at 10.30 a.m.**, remove the paper seal / polythene bag 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.
3. During the subsequent 120 minutes:
 - Read each question (item) carefully.
 - Choose one correct answer from out of the four available responses (options / choices) given under each question / item. 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.
 - **Completely darken / shade the relevant circle with a BLUE OR BLACK INK BALL POINT PEN against the question number on the OMR answer sheet.**
4. Use the space provided on each page of the question booklet for Rough Work. Do not use the OMR answer sheet for the same.
5. After the **last Bell is rung at 12.30 pm**, stop marking on the OMR answer sheet and affix your **left hand thumb impression** on the OMR answer sheet as per the instructions.
6. Hand over the **OMR ANSWER SHEET** to the room invigilator as it is.
7. After separating the top sheet, the invigilator will return the bottom sheet replica (Candidate's copy) to you to carry home for self-evaluation.
8. Preserve the replica of the OMR answer sheet for a minimum period of **ONE year**.
9. Only **Non-programmable** calculators are allowed.

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. Minor cleaning points in blow room are
(A) Openers (B) Beaters
(C) Lattices (D) Cages

2. Trash to lint ratio in blow room waste is
(A) 70 : 30 (B) 90 : 10
(C) 80 : 20 (D) 60 : 40

3. The cylinder speed in comber is expressed in
(A) NPM (B) RPM
(C) mts/min (D) mm/min

4. Fibre to fibre separation is achieved in
(A) Draw frame (B) Comber
(C) Card (D) Speed frame

5. Combing reduces neps by
(A) 50% (B) 70%
(C) 80% (D) 25 – 40%

6. Step cleaner consists of
(A) 6 – 8 cylinders (B) 14 cylinders
(C) 20 cylinders (D) 24 cylinders

Space For Rough Work

7. Open end spinning is used to produce
(A) Finer count yarns (B) Fancy yarns
(C) Uniform yarns (D) Highly twisted yarns
8. Repco spinning produces
(A) Core spun yarns (B) Self twist yarns
(C) Cover spun yarns (D) Siro yarns
9. Cone angle required to wind knit cones on drum winding machine is
(A) $2^{\circ} 15'$ (B) $3^{\circ} 10'$
(C) $20^{\circ} 15'$ (D) $9^{\circ} 15'$
10. The stretch allowed for cotton warp on multicylinder sizing machine is
(A) 5% (B) 2%
(C) 6% (D) 10%
11. The air pressure required on Air – jet loom at the time of weft insertion is
(A) 10 bar (B) 6 bar
(C) 20 bar (D) 30 bar
12. The torsion rod picking is generally used on
(A) Rapier looms (B) Air – jet looms
(C) Multiphase looms (D) Sulzer looms
13. The stroke of the tappet which is operating the back set of heald shaft is more than _____ compared to the stroke of the tappet operating the front set of heald shafts.
(A) 5% (B) 10%
(C) 23% (D) 50%

Space For Rough Work

14. Raschel is a _____ knitting machine.
- (A) Weft (B) Warp
(C) Flat (D) Triaxial
15. Cone test is generally used to test
- (A) Woven fabrics.
(B) Warp knitted fabrics.
(C) Non woven fabrics.
(D) Braided fabrics.
16. The enzymes used for desizing of cotton are
- (A) Fructases (B) Xylanases
(C) Amylases (D) Pectinases
17. Liquid ammonia mercerization is carried out at
- (A) 75 °C (B) 40 °C
(C) - 10 °C (D) - 20 °C
18. Synthetic fibres are generally bleached by
- (A) Sodium hypochlorite
(B) Calcium hypochlorite
(C) Sodium chlorate/chlorite
(D) Potassium dichromate

Space For Rough Work

19. As the crystallite orientation in fibres increases, the dye uptake
- (A) Remains same
 - (B) Increases
 - (C) Decreases
 - (D) Increases and then decreases
20. Acrylic fibres are generally dyed by
- (A) Acid dyes
 - (B) Direct dyes
 - (C) Metal complex dyes
 - (D) Basic dyes
21. Reducing agent used in sulphur dyeing is
- (A) Sodium perborate
 - (B) Calcium metaphosphate
 - (C) Sodium sulphide
 - (D) Sodium phosphate
22. After treatments given to direct dyed goods improve their
- (A) Crystallinity
 - (B) Size of dye particles inside the fibre
 - (C) Absorbency
 - (D) Hydrophobicity
23. Generally knitted fabrics are dyed using _____.
- (A) Jet dyeing machine
 - (B) Jigger dyeing machine
 - (C) HT – HP beaker dyeing machine
 - (D) Soft flow dyeing machine

Space For Rough Work

24. The rating range for light fastness property is
- (A) 1 – 5 (B) 1 – 6
(C) 1 – 4 (D) 1 – 8
25. In discharge printing discharging of ground colour is carried out by
- (A) Sequestering agents (B) Reducing agents
(C) Surfactants (D) De – lustering agents
26. Wet transfer printing makes use of
- (A) Disperse dyes (B) Pigment colours
(C) Water – soluble dyes (D) Vat dyes
27. DMDHEU is a popular
- (A) Water proofing agent (B) Soil releasing agent
(C) Anticreasing agent (D) Moth proofing agent
28. Heat setting of polyester is carried out at
- (A) 90 – 110 °C (B) 60 – 70 °C
(C) 200 – 220 °C (D) 120 – 130 °C
29. Biopolishing agents used for cotton and other garments are
- (A) Cellulases (B) Trypsin
(C) Alcaleses (D) Rapidases

Space For Rough Work

30. If D is the fibre diameter, air flow rate through a plug of fibres is proportional to
- (A) D (B) D^2
(C) $1/D$ (D) $1/D^2$
31. In a spun yarn, as the number of fibres in the cross section increases, the basic yarn irregularity
- (A) increases
(B) decreases
(C) unaffected
(D) initially decreases & then increases
32. For a known growth, the micronaire value of cotton fibre is the measure of
- (A) Fibre fineness (B) Fibre strength
(C) Fibre maturity (D) Fibre length
33. Yarn hairiness index obtained using hairiness sensor on uster evenness tester refers to the total length of protruding hairs (in cm) for a yarn length of
- (A) 1 mm (B) 10 mm
(C) 100 mm (D) 1000 mm
34. Stelometer works on the following principle of loading :
- (A) CRT (B) CRE
(C) CRL (D) Both CRT & CRE

Space For Rough Work

35. Cocoon riddling is the process of
- (A) sorting of cocoons according to their size.
 - (B) sorting of cocoons according to their shape.
 - (C) killing the pupa inside the cocoon.
 - (D) conditioning the cocoons for better reeling.
36. Seriplane instrument is used for measuring
- (A) strength of silk
 - (B) abrasion of silk
 - (C) evenness of silk
 - (D) neatness of silk
37. Multiend reeling machine uses
- (A) Traveletta type croissure
 - (B) Semicircular type croissure
 - (C) Chambon type croissure
 - (D) Flat croissure
38. Tram is _____ twisted yarn.
- (A) medium
 - (B) high
 - (C) low
 - (D) cross
39. Peter England is a brand name of
- (A) Reliance apparels
 - (B) Madhura garments
 - (C) Arvind mills
 - (D) Raymond fabrics

Space For Rough Work

40. Functionality (f) in case of tri-bi functional monomers is _____.
- (A) 2.0 (B) 1.0
(C) 4.5 (D) 2.5
41. On each reactant minimum of _____ functional groups are required for conducting condensation polymerisation.
- (A) 1 (B) 2
(C) 3 (D) 4
42. The commercial textile grade acrylic fibre is
- (A) a homopolymer of acrylonitrile.
(B) a homopolymer of acrylamide.
(C) a copolymer containing atleast 85% PAN moiety.
(D) a copolymer containing 85% Polyacrylamide moiety.
43. Commercial grade polypropylene is
- (A) Isotactic (B) Atactic
(C) Syndiotactic (D) Smectic
44. Jute, flax and ramie belong to
- (A) Hair fibres (B) Bast fibres
(C) Leaf fibres (D) Fruit fibres

Space For Rough Work

45. Moisture regain of Nylon fibre is in the range of
(A) 2.0 – 3.0 (B) 3.5 – 4.5
(C) 5.0 – 6.0 (D) 6.5 – 7.5
46. The density of polyester fibre is
(A) more than that of cotton.
(B) same as that of nylon.
(C) more than that of nylon but less than that of cotton.
(D) more than that of polypropylene but less than that of nylon.
47. Which of the following is multicellular fibre ?
(A) Cotton (B) Flax
(C) Silk (D) Cupraamonium rayon
48. Amongst the following fibres, the highest initial modulus is demonstrated by
(A) Cotton (B) Wool
(C) POY polyester (D) Jute
49. Lyocel is a
(A) Cellulosic fibre (B) Protein fibre
(C) Polyamide fibre (D) Polyester fibre
50. The seed percentage in KAPAS is
(A) 45% (B) 66%
(C) 55% (D) 70%

Space For Rough Work

PART – 2

Each question carries two marks.

25 × 2 = 50

51. Nylon – 6 & Nylon – 66 filaments can be distinguished by
(A) Melting point test
(B) Burning test
(C) Optical microscopy
(D) Density measurement
52. Mixing of two polymer melts yields
(A) Block copolymers
(B) Random copolymers
(C) Alternate copolymers
(D) Polymer blends
53. If 6 gms of trash is extracted in blow room from the cotton mixing having 8% trash, then the blow room cleaning efficiency is
(A) 85% (B) 65%
(C) 95% (D) 75%
54. If the length of card sliver is 6 yds and weight is 357 grains, then the hank of sliver is
(A) 0.14 Ne (B) 0.12 Ne
(C) 0.16 Ne (D) 0.18 Ne
55. If the front roller speed of draw frame is 800 mts/min and back roller speed is 110 yds/min, then the draw frame draft is
(A) 10 (B) 9
(C) 8 (D) 1
56. If the linear density of roving delivered in speed frame is 280 Tex then the hank of roving is
(A) 1.2 Ne (B) 1.6 Ne
(C) 1.9 Ne (D) 2.1 Ne
57. The length of yarn at front roller of ring frame is 1800 yds and twist contraction is 5%, then the length on bobbin is
(A) 1780 yds (B) 1710 yds
(C) 1890 yds (D) 1800 yds

Space For Rough Work

58. Weft cutters are used in _____.
- (A) Pirm winding machine (B) Warping machine
(C) Conventional looms (D) Shuttleless looms
59. The disadvantage of the rigid rapier system is
- (A) Higher cost
(B) Unsuitability to weave light wt fabrics
(C) Increased floor space
(D) High maintenance
60. Thermosol dyeing of PET uses _____.
- (A) Exhaustion dyeing principle (B) Pad-dry-cure principle
(C) Dye-exhaust method (D) Batch-pad-dry principle
61. THPC is a very popular _____.
- (A) Fixing agent (B) Fire proofing agent
(C) Rot proofing agent (D) Anti-creasing agent
62. Addition of sodium carbonate as affixing agent is added in reactive dyeing at
- (A) The beginning of dyeing
(B) Middle of dyeing
(C) End of dyeing
(D) It is not added at all
63. Denier of a cotton fibre with a maturity ratio of 0.9 and micronaire value of 4 will be approximately
- (A) 1.0 (B) 1.3
(C) 1.6 (D) 1.9
64. Length of 2 kg of 180 denier polyester yarn is
- (A) 90 km (B) 100 km
(C) 180 km (D) 360 km

Space For Rough Work

65. AQL system inspection is related to
- (A) Fabric inspection
 - (B) Garment inspection
 - (C) Sewing thread
 - (D) Support materials inspection
66. The rpm of the sewing machine is equal to the
- (A) Speed of the needle bar
 - (B) No. of stitches / min
 - (C) Speed of cylinder
 - (D) The material fed to sewing point
67. Projected area of a 30 cm dia fabric specimen paced on 20 cm dia support plate of drape tester is 302 cm^2 . Drape coefficient for this fabric is ____.
- (A) 0.47
 - (B) 0.57
 - (C) 0.67
 - (D) 0.77
68. Garments are dyed on
- (A) Jiggers
 - (B) Winches
 - (C) Horizontal paddle dyeing machines
 - (D) Jet dyeing machines
69. Band knife cutting machine is recommended
- (A) to cut small pattern pieces like collars and cuffs.
 - (B) to cut large pattern pieces.
 - (C) to make edge finishings.
 - (D) to cut fabric rolls.

Space For Rough Work

70. Theoretical maximum extent of reaction during polymerization of bi – bi functional monomers is (assuming $D_p = \infty$)
- (A) 40% (B) 80%
(C) 90% (D) 100%
71. The volume of breaking length in km (RKM) of a filament is numerically equal to
- (A) Tenacity in N/Text (B) Breaking load in N
(C) Tenacity in gf/Text (D) Breaking load in gf
72. With increase in RH from 0 to 100% the tensile properties of cotton fibres change such that
- (A) modulus & strength increases, extensibility decreases.
(B) modulus decreases, strength & extensibility increases.
(C) modulus, tenacity as well as extensibility increases.
(D) modulus & tenacity increases, extensibility remains same.
73. In the manufacture of PET, the principal compounds involved during polycondensation step is / are
- (A) MEG & DMT (B) EG & PTA
(C) DBT (D) DGT
74. If the present moisture regain (R) of a fibre is 8, its percent moisture content (M) would be
- (A) 7.4 (B) 7.2
(C) 7.6 (D) 7.0
75. Water is added to caprolactum during the polymerization of nylon – 6. Its primary role is
- (A) Solvent (B) Catalyst
(C) Heat sink (D) Stabiliser

Space For Rough Work

A-2