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Ph D Entrance Test (PET – 2016)

1. Surface features of a fibre can be obtained by
B. Scanning electron microscope
2. Softer cots on drafting rollers result in
B. Less fibre slippage at roller nip
3. Amongst the following, the suitable technology for producing core spun yarn is
C. Friction spinning
4. In weft knitted fabrics of the same mass per unit area produced from the same yarns, the structure which will give the highest thickness is
D. Interlock
5. During bleaching of cotton with H_2O_2 , the stabilizer used is
B. Sodium silicate
6. Disperse dye cannot generally be fixed on polyester by
D. Saturated steam at $100^\circ C$
7. Two yarn samples have standard deviation of strength σ_1 and σ_2 . If $\sigma_1 < \sigma_2$, the 'F' ratio would be
D. σ_2^2 / σ_1^2
8. On twisting, the denier of a multifilament yarn consisting of 300 filaments of 3 denier each becomes 1100. If 11 km of untwisted filament yarn is twisted, its length in km will be
A. 9

Answer Key - Set 2

9. Consider the following assertion [a] and reason [r] and choose the most appropriate answer
[a] In false-twist friction texturing, the ratio of input to output tension is kept close to one
[r] Broken filaments and tight spots are within the acceptable limits at this condition
- B. [a] is right [r] is right
10. The principle which cannot be used to measure hairiness of yarn is
- D. Capacitance
11. If T is the thermal insulation of each layer of fabric, the thermal insulation of the two layers of the fabrics together will be
- A. Greater than 2T
12. Fibre diameter varies
- A. Inversely with square root of density
13. In case of surface driven winding package, as the winding proceeds, the angle of wind
- C. Remain constant
14. Fabric drape is influenced by
- D. All of the above
15. Among the following textile grade fibres, the highest elastic recovery is demonstrated by
- C. Nylon
16. If 95% confidence range of the mean based on 36 samples in ± 5 , the number of test samples required to obtain ± 3 of the mean will be
- C. 100
17. The unit of specific work of rupture is
- B. cN/tex

Answer Key - Set 2

18. To avoid bumping during weaving of cloth following requirements must be satisfied;
- P. Higher cloth tension during weaving
 - Q. Continuous take up
 - R. Vibrating backrest
 - S. Higher warp strength
- C. P, S
19. Split drying system is employed on sizing machine on drying
- C. Very dense warp sheet
20. The unit of shear rigidity
- C. N/m.deg
21. The force required to buckle a sample of fabric of length ℓ is proportional to
- D. $\frac{1}{\ell^2}$
22. Two roving with CV of 8% each are fed into a spinning zone and if the spinning unit add 8% CV, the CV% of output yarn will be approximately;
- C. 9.8
23. A garment factory manufactures shirts. From the past history, it is known that 8 out of 100 collars and 5 out of 100 sleeves are defective. The probability that the assembled shirt will **NOT** have either of these defects is
- C. 0.87
24. The ratio of sley acceleration at the front centre and back centre of the loom ($e = 0.25$) is
- C. -1.67
25. In a doubling of 20 tex cotton yarn +300% thick faults falls on normal yarn portion. The level of fault in final yarn will become
- A. 150%
26. The main limitation of increasing the speed of gripper loom is,
- A. Retarding and controlling the gripper becomes difficult

Answer Key - Set 2

27. Shear rigidity of a fabric, in which with application of 'P' stress in biased direction results 'e' strain, can be approximated as
A. $P/4e$
28. In a knitted fabric of stitch length l , composed of yarn of linear density T tex and stitch density S , mass of the cloth is proportional to
A. T/S
29. Which of the following quality parameter is independent of fabric thickness
C. Compressibility
30. The strength of a single filament is 6 gf/denier. The strength of twisted multifilament yarn consist of 100 filaments will be
B. Less than 6 gf/denier
31. Which of the following type of rib stitch has excellent width wise elasticity in a weft knitted fabric?
B. 2x2 rib stitch.
32. Yarn hairiness is directly proportional to
A. Yarn linear density
33. The wet strength of this fibre is higher than its dry strength
B. Cotton
34. Which of the following amino acids is responsible for relatively higher wet strength in wool fiber?
C. Cystine
35. Which one of the following stereo structures of polypropylene is (are) used for commercial fibre manufacture?
D. Isotactic
36. Acrylic fibre has high glass transition temperature ($T_g \approx 100^\circ\text{C}$) primarily due to
A. Presence of polar side groups

Answer Key - Set 2

37. In which of the following polymerization methods, the rate of reaction is very high and leads to uncontrolled polymerization?

C. Bulk polymerization

38. Softener reduces the bending rigidity of fabrics by decreasing

A. Inter-fibre and inter-yarn friction

39. A dye with dischargeability rating of 1 (one) **WILL NOT** be suitable for

C. Discharge printing

40. The enzyme used for biopolishing of cotton is

A. Cellulase
