M/P ENT - 131

Total No. of Pages : 8

Seat No.	

M.Phil./Ph.D. Entrance Examination, October - 2021

TEXTILE ENGINEERING

Day and Date : Thursday, 28 - 10 - 2021 **Total Marks : 100**

Time : 4.00 p.m. to 6.00 p.m.

Instructions :

1) **All questions are compulsory.**
2) **Each question carries 2 marks.**
3) **Answers should be marked in the given OMR answer sheet by darkening the appropriate option.**
4) **Use black ball point pen only for marking the circle. Do not make any stray mark on the OMR Answer Sheet.**
5) **Follow the instructions given on OMR Sheet.**
6) **Rough work shall be done on the sheet provided at the end of question paper.**
7) **Only non-programmable calculators are allowed.**

1) In murata Air Jet Spinning system
   A) Air in both the nozzles rotate in clockwise direction
   B) Air in both the nozzles rotate in anti-clockwise direction
   C) Air in first nozzle rotate in clockwise and air in second nozzle rotates in anticlockwise direction
   D) Air in both the nozzles do not rotate

2) Balloon control rings are more effective
   A) At the end of the doff
   B) At the middle of the doff
   C) At the beginning of the doff
   D) Throughout the doff

3) Two yarns of Ne 12 and Ne 16 are plied together. What will be the resultant count? (Ignore any change in length due to plying)
   A) Ne 14
   B) Ne 12.8
   C) Ne 6.8
   D) Ne 13.5

4) In the card, the wire point density is maximum on
   A) Cylinder
   B) Flat
   C) Doffer
   D) Licker-in

P.T.O.

5) The principal objective of cotton scouring is to
   A) Increase whiteness
   B) Decrease trash content
   C) Increase absorbency
   D) None of the above

6) In a DSC experiment a typical heating plot for a semi-crystalline polymer would show in order with increasing temperature
   A) Cold crystallization, Glass transition, Melting
   B) Glass transition, Melting, Melt crystallization
   C) Glass transition, Cold crystallization, Melting
   D) No specific order is observed

7) Gas-singeing machine is operated at a speed of
   A) 50 - 70 m/min
   B) 125 - 200 m/min
   C) 10 - 40 m/min
   D) 80 - 120 m/min

8) The setting of Poly (ethylene terephthalate) fabric is usually done at
   A) 50°C
   B) 100°C
   C) 150°C
   D) 200°C

9) Hydrogen peroxide bleaching is carried out at
   A) room temperature
   B) 50-60°C
   C) 80-100°C
   D) 200°C

10) Polyester and acrylic fibres can be bleached with
   A) Sodium hydrosulphite
   B) Hydrogen peroxide
   C) Sodium chlorite
   D) Sulphur dioxide

11) Mercerization is carried out with NaOH of
   A) 10 - 15% Conc
   B) 18 - 25% Conc
   C) 5 - 10% Conc
   D) 25 - 35% Conc

12) Efficiency of mercerization cannot be assessed by
   A) Dye sorption
   B) Deconvolution count
   C) Shrinkage
   D) Sinking time

13) Acid Dyes are held on Nylon by means of
   A) Electrostatic force
   B) Covalent bond
   C) Van der Waal force
   D) Hydrogen bond

14) The fibre that does not shrink when taken near the flame is
   A) Polypropylene
   B) Acrylic
   C) Acetate
   D) Viscose

15) Melting point of polypropylene in °C is
A) 110 B) 150
C) 170 D) 200

16) Uniformity Ratio gives an idea about
A) Short fibre percent in cotton B) Effective length of cotton
C) Length variability of cotton D) Longest fibre present in cotton

17) In a twist-untwist method, to determine yarn twist using 10 inch sample 400 rotations of a jaw are required to complete the test. Twist per inch in the yarn is
A) 10 B) 20
C) 40 D) 80

18) Two cotton fibre varieties X and Y having linear density of 3.1 and 3.9 (micrograms/25.4 mm), respectively, are tested on an airflow instrument. The highest flow rate is obtained in the case of
A) Fibre X with maturity ratio 0.9 B) Fibre X with maturity ratio 1.0
C) Fibre Y with maturity ratio 0.9 D) Fibre Y with maturity ratio 1.0

19) When a load of 245 cN breaks a 50 denier yarn, the breaking length of the yarn is
A) 1800 metres B) 4500 metres
C) 9000 metres D) 45000 metres

20) If 5 grams of an oven dry fibre absorbs 1.25 grams of moisture, the moisture regain (MR) and moisture content (MC) of the fibre are
A) MR = 25% and MC = 23.8% B) MR = 23.8% and MC = 25%
C) MR = 23.8% and MC = 23.8% D) MR = 25% and MC = 20%

21) The strength utilization of yarn in a woven fabric is
A) Always more than 1.0 B) Always less than 1.0
C) Always equal to 1.0 D) Either more or less than 1.0

22) Fabrics with the same sett but different weaves are woven on a loom. The tear strength will be minimum in a fabric having
A) Plain weave B) 3/1 twill weave
C) 5-end satin weave D) 2/2 matt weave

23) Circular looms are preferred over conventional looms
A) When weft pattern is complicated
B) When the silk yarn is involved
C) When hose type of fabrics are required
D) Because circular looms give higher efficiency

24) Gauge on the winder with trap type(serrated) slub catcher for 25 tex yarn will be
A) 0.1 - 0.3 mm
B) 0.6 - 0.7 mm
C) 1.0 - 1.3 mm
D) 1.5 - 2.0 mm

25) Single-end sizing involve
A) Sizing of yarn sheet drawn from one beam only
B) Sizing of only one yarn at a time
C) Sizing of a yarn sheet with very low yarn density
D) Sizing with very low concentration of liquor

26) Research is classified on the basis of _____ and methods.
A) Purpose
B) Intent
C) Methodology
D) None of the above

27) Research conducted to find solution for an immediate problem is _____
A) Fundamental Research
B) Analytical Research
C) Survey
D) Action Research

28) Two types of errors associated with hypothesis testing are Type I and Type II. Type II error is committed when
A) We reject the null hypothesis whilst the alternative hypothesis is true
B) We reject a null hypothesis when it is true
C) We accept a null hypothesis when it is not true
D) None of the above

29) Research conducted in classroom atmosphere is called
A) Field study
B) Survey
C) Laboratory Research
D) Empirical Research

30) One or two tail test will determine
A) If the two extreme values (min or max) of the sample need to be rejected
B) If the hypothesis has one or possible two conclusions
C) If the region of rejection is located in one or two tails of the distribution
D) None of the above

31) What are the two types of variance, which can occur in your data?
A) Between or within groups
B) Repeated and extraneous
C) Experimenter and participant
D) Independent and confounding

32) ICSSR stands for
A) Indian Council for Survey and Research
B) Indian Council for Strategic Research
C) Indian Council for Social Science Research
D) International Council for Social Science Research

33) Which ONE of these techniques is most likely to be used in quantitative analysis?
A) Multivariate analysis
B) Sound-tape recordings
C) Transcripts
D) Videos

34) To ensure adequate informed consent, a researcher should include all of the following components in an introduction except _____.
A) Promise of anonymity and confidentiality
B) Sponsoring organization
C) Purpose of the research
D) Estimate of when the research study will be published

35) An interval scale contains _____
A) Mutually exclusive and collectively exhaustive categories as well as the property of order, but not distance or unique origin
B) The properties of order, classification, and equal distance between points but no unique origin
C) Mutually exclusive and collectively exhaustive categories, but without the properties of order, distance, and origin
D) The properties of classification, order, equal distance, and unique origin

36) Which of the following is true of resistant statistics?
A) Inappropriate for statistical analysis
B) Corrupted with measurement bias
C) Based on nominal scales
D) Able to resist influence of extreme values

37) A _____ is an abstraction formed by generalization from particulars
A) Hypothesis B) Variable
C) Concept D) Facts

38) Conclusions from qualitative research are
A) Less certain than from quantitative research
B) Of little practical use
C) Of descriptive value only
D) Seldom defensible

39) A Hypothesis which develops while planning the research is
A) Null Hypothesis B) Working Hypothesis
C) Relational Hypothesis D) Descriptive Hypothesis

40) When a hypothesis is stated negatively it is called
A) Relational Hypothesis B) Situational Hypothesis
C) Null Hypothesis D) Casual Hypothesis

41) _____ which deals with the techniques by which the procedures specified in the sampling, statistical and observational designs can be carried out
A) Statistical design B) Observational design
C) Operational design D) Sampling design

42) A Hypothesis must be _____
A) Diffuse B) Specific
C) Slow D) Speedy

43) The first purpose of a survey is to _____
A) Description B) Evaluation
C) Propagation D) Provide Information

44) In Testing the statistical hypothesis, which of the following statement is false?
A) The critical region is the values of the test statistic for which we reject null hypothesis
B) The level of significance is the probability of type I error
C) The p-value measures the probability that the null hypothesis is true
D) None of the above

45) Chi-square test for independence assesses which of the following?

A) It assesses whether there is a relationship between two categorical variables

B) It assesses whether there is a relationship between the population and the sample

C) It assesses whether there is a significant difference between two categorical variables

D) It assesses whether there is significant difference between scores taken at time 1 and those taken at time 2

46) For collection of Data _____ time is devoted

A) 50% B) 25%

C) 75% D) 33%

47) Final stage in the Research Process is

A) Problem formulation B) Data collection

C) Data Analysis D) Report Writing

48) _____ is a statistical technique that identifies homogeneous subgroups.

A) Factor analysis B) Multivariate analysis of variance

C) Cluster analysis D) Discriminant analysis

49) A short summary of Technical Report is called

A) Article B) Research Abstract

C) Publication D) Guide

50) Which of the following measures become larger as the data is more dispersed - the mean, median, range, variance or standard deviation?

A) The mean and the median

B) The median and range

C) The mean, variance and standard deviation

D) The range, variance and standard deviation

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Rough Work