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PD-28

Total No. of Pages : 12

Ph.D. Entrance Examination, 2025
Engineering and Technology
Textile Engineering
Sub. Code:58751

Day and Date : Wednesday, 10-09-2025

Total Marks : 100

Time : 1.00 p.m. to 3.00 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.

Q1. The method by which a sample is chosen

- | | |
|-----------|----------------------|
| a. Unit | b. design |
| c. Random | d. None of the above |

Q2. which concerns with the question of how many items are to be observed and how the information and data gathered are to be analyzed

- a. Statistical design
- b. Observational design
- c. Operational design
- d. Sampling design

Q3. Research is classified on the basis ofand methods

- | | |
|----------------|----------------------|
| a. Purpose | b. Intent |
| c. Methodology | d. None of the above |

Q4. The variables are ones that have a strong contingent effect on the relationship between the independent variable and dependent variable. They have potential to modify the direction and magnitude of the above stated association.

- a. Moderating variables
- b. Inverting variables
- c. Extraneous variable
- d. None of the above

Q5. involve random selection

- a. Probability sampling
- b. Non-probability sampling
- c. Purposive sampling
- d. None of these

Q6. Research conducted to find solution for an immediate problem is.....

- a. Fundamental Research
- b. Analytical Research
- c. Survey
- d. Action Research

Q7. Research related to abstract ideas or concepts is

- a. Empirical research
- b. Conceptual Research
- c. Quantitative research
- d. Qualitative research

Q8. Parametric test, unlike the non-parametric tests, make certain assumptions about

- a. The population size
- b. The underlying distribution
- c. The sample size
- d. None of the above

Q9. 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

Q.10. The null hypothesis of the sign test is that

- a. Half the ranks to be less than the median and half greater than the median
- b. Half the ranks to be less than the mean and half greater than the mean
- c. The lower half the ranks to have the same mean as the upper half
- d. The lower half the ranks to have the same standard deviation as the upper half

Q11. A research which follows case study method is called

- a. Clinical or diagnostic
- b. Causal
- c. Analytical
- d. Qualitative

Q12. Research conducted in class room atmosphere is called

- a. Field study
- b. Survey
- c. Laboratory Research
- d. Empirical Research

Q 13. What is an effect size?

- a. The magnitude of the relationship between variables
- b. The likelihood of type 1 and type 2 errors
- c. The number of expected cases
- d. The variance explained by the measures

Q14. What does a significant result in a chi-square test imply?

- a. That homogeneity of variance has not been established
- b. That there is a significant difference between the three categorical variables included in the analysis
- c. It implies that the sample is not representative of the population
- d. All of these are possible

Q.15. 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

Q 16., Research through experiment and observation is called

- a. Clinical Research
- b. Experimental Research
- c. Laboratory Research
- d. Empirical Research

Q17. Research method is a part of

- a. Problem
- b. Experiment
- c. Research Techniques
- d. Research methodology

Q 18. 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

Q19. You obtained a significant test statistic when comparing three treatments in a one-way ANOVA. In words, how would you interpret the alternative hypothesis H_A ?

- a. All three treatments have different effects on the mean response.
- b. Exactly two of the three treatments have the same effect on the mean response.
- c. At least two treatments are different from each other in terms of their effect on the mean response.
- d. All of the above.

Q 20. Identifying causes of a problem and possible solution to a problem is

- a. Field Study
- b. diagnosis tic study.
- c. Action study
- d. Pilot study

Q 21. ICSSR stands for

- a. Indian Council for Survey and Research
- b. Indian Council for strategic Research
- c. Indian Council for Social Science Research
- d. Inter National Council for Social Science Research

Q 22. Converting a question into a Researchable problem is called.....

- a. Solution
- b. Examination
- c. Problem formulation
- d. Problem Solving

Q23. What is the function of a post-test in ANOVA?

- a. Determine if any statistically significant group differences have occurred.
- b. Describe those groups that have reliable differences between group means..
- c. Set the critical value for the F test (or chi-square).
- d. None of the above

Q 24. 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.

Q 25. 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

Q26. In a carding machine, fibre straightening is attained to a maximum extent in

- a. Cylinder to flat carding region
- b. Cylinder to doffer transfer region
- c. Licker in to cylinder transfer region
- d. Cylinder to undercasing region

Q.27 For a given yarn count made from the same fibre, rotor yarn is bulkier than ring spun yarn, because

- a. Rotor yarn spun is more even than ring spun yarn
- b. Navel tube peels off the fibres from rotor spun yarn surface
- c. Rotor spun yarn has large number of wrapper fibres
- d. Yarn tension in rotor spinning is lower as compared to that in ring spinning

Q.28 The increase in traveller weight leads to an increase in

- a. Yarn diameter
- b. Balloon diameter
- c. Yarn tension
- d. None of the above

Q.29 Feeding of cotton flocks in clamped condition in blowroom

- a. gives an intensive and good opening action
- b. gives an intensive but poor opening action
- c. gives gentle and good opening action
- d. gives gentle and poor opening action

Q.30 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

Q.31 Fibres produced by solution spinning is

- | | |
|------------------------|--------------------------|
| a. Viscose and acrylic | b. Polyester and acrylic |
| c. Nylon and polyester | d. Polyamide and acetate |

Q.32 Ziegler Natta catalyst is used in the polymerization of

- | | |
|------------|------------------|
| a. PET | b. Nylon |
| c. Acetate | d. Polypropylene |

Q.33 The most important ingredient of a scouring composition is

- | | |
|----------------------|--------------------|
| a. Wetting agent | b. Alkali |
| c. Emulsifying agent | d. Sodium silicate |

Q.34 Polyethylene Terephthalate crystallizes slowly due to the

- a. flexibility of chains
- b. stiffness of chains
- c. hydrogen bonding between chains
- d. higher nucleation density

Q.35 For bleaching of cotton, amount of H_2O_2 (50%) required is ...

- | | |
|-------------|-------------|
| a. 15-30gpl | b. 1-5gpl |
| c. 35-50gpl | d. 52-55gpl |

Q.36 Batik printing is carried out using

- | | |
|-----------------|----------------------|
| a. Direct style | b. Discharge style |
| c. Resist style | d. Transfer printing |

Q.37 Microbes growing on clothing derive nutrition from

- a. Atmospheric oxygen
- b. Digestion of polymer
- c. Sweat and contaminants
- d. Moisture in the air

Q.38 Astrazon Blue GL is recommended

- a. for dyeing acrylic fabrics with a light fastness of 7-8
- b. for dyeing polyester
- c. for mass colouration of polypropylene
- d. for dyeing cotton

Q.39 Singeing of cotton is carried out to

- a. remove protruding fibres from fabrics surface
- b. impart luster
- c. cut long threads from fabric surface
- d. improve strength

Q.40 Wool and silk can be bleached with

- a. Sodium hydrosulphite
- b. Sodium perborate
- c. Hydrogen peroxide
- d. Sodium hypochlorite

Q.41 Density of wool fibre in g/cm³ is

- a. 1.52
- b. 1.31
- c. 1.39
- d. 1.1

Q.42 Ratio of moisture regain for standard viscose rayon to cotton under standard conditions is nearly

- a. 4
- b. 3
- c. 2
- d. 0.5

Q.43 In a spinning mill, fibre bundle strength is preferred over single fibre strength, because

- a. Bundle strength test is easy and quick
- b. It gives less variation
- c. It has better correlation with yarn strength
- d. It gives benefit of all above three

Q.44 ISO recommended international test conditions are

- a. 20°C & 65% R.H.
- b. 21°C & 65% R.H.
- c. 25°C & 65% R.H.
- d. 27°C & 65% R.H.

Q.45 Moisture regain % of fibre, which has 9% moisture content, will be approximately

- a. 11.5
- b. 7
- c. 10
- d. 9

Q.46 In triaxial weaving, weft is inserted

- a. In single pick
- b. In double picks
- c. By two pick cycle
- d. None of the above

Q.47 Sectional warping is considered more practical than beam warping

- a. For executing big orders
- b. For producing striped fabrics
- c. When sizing is considered necessary
- d. When two fold yarn has to be used in warp and weft

Q.48 A sheeting fabric having 30 tex in warp and 20 tex in weft, and having 40 X 30 ends and picks per centimeter respectively

- a. 90 g/m²
- b. 170 g/m²
- c. 180 g/m²
- d. 200 g/m²

Q.49 Increase in taper angle on the Sectional Warping Machine will require

- a. Increase in traverse speed
- b. Decrease in traverse speed
- c. higher warping speed
- d. lower warping speed

Q.50 The speed of tappet shaft on a loom running at 180 rpm weaving | up 2 down
will be

- a. 90 rpm
- b. 180 rpm
- c. 60 rpm
- d. 120 rpm



- Rough Work -

- Rough Work -