#### Seat No.

### M.Phil/Ph.D. Entrance Examination, September - 2019 TEXTILE ENGINEERING

Day and Date : Wednesday, 18 - 09 - 2019 Time : 04.00 p.m. to 06.00 p.m.

**Total Marks : 100** 

**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. The most preferred beater for processing man made fibres is
  - A) Shirley opener
  - B) Kirschner beater
  - C) Crighton beater
  - D) Three bladed beater
- 2. Short term periodic irregularities are generated at
  - A) Speed frame B) Ring frame
  - C) Draw frame D) Card
- 3. Spinning system that generates false twist during spinning is
  - A) Ring Spinning B) Rotor spinning
  - C) DREF 3 D) Air jet spinning

- 4. The bottom roller that carries apron has
  - A) Straight flutes B) Helical flutes
  - C) Knurled flutes D) Plane surface

5. The % cleaning efficiency of a cotton blow room line lies between

- A) 40 & 50 B) 50 & 60
- C) 60 & 75 D) 80 & 95
- 6. Dyeing of silk is carried out by using
  - A) Disperse dyesB) Acid dyes
  - C) Pigment colours D) None of the above

7. Sodium hypoclorite bleaching of cotton is carried out at

A)	room temperature	B)	50 - 60°C
C)	90°C	D)	At boil

8. Damage caused to cotton during bleaching can be assessed by measuring

- A) Cuprammonium Fluidity
- B) Methylene Blue Absorption
- C) Barium Number
- D) White index
- 9. Vinyl sulphone Reactive dyes are applied on cotton under
  - A) alkaline PH B) neutral PH
  - C) acid PH D) None of the above

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- **10.** The end groups in PET are
  - A) Carboxyl B) Hydroxyl
  - C) Carboxyl and hydroxyl D) Carboxyl and Amino

#### 11. Dimethyloldihydroxy ethylene urea is used to improve

- A) Crease resistance of cotton B) Flame resistance of nylon
- C) Softness of polyester D) Soil release

#### **12.** THPC is a

- A) Water repellent B) Carrier
- C) Anionic wetting agent D) Flame retardant
- 13. The birefringence of nylon 6 fibres is 0.055 and of PET fibre 0.18. State if
  - A) both fibres are well oriented
  - B) PET is well oriented but not Nylon 6
  - C) Nylon 6 is well oriented but not PET
  - D) None of the above
- 14. The count of a yarn is 20 Tex. It is equivalent to a yarn of
  - A) 29.5 Ne (English count) B) 160 Denier
  - C) 65 Nm (Metric count) D) None of the above
- **15.** Arrange the following fibres in the order of decreasing breaking extension: Silk, Cotton. Hemp and Wool
  - A) Silk>Wool>Cotton>Hemp
  - B) Wool>Silk>Cotton>Hemp
  - C) Wool>Silk>Hemp>Cotton
  - D) Silk>Wool>Hemp>Cotton

**16.** 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 $MC=20%$

- **17.** If the 50 % span length of a cotton fibre is 13.5 mm and the uniformity ratio is 45 %, then 2.5 % span length of this fibre in mm would be
  - A) 10 B) 15
  - C) 30 D) 35
- **18.** On a mass based evenness tester, thin place in a yarn at-40 % setting is counted if mass per unit length is
  - A) 40 % of the mean mass per unit length
  - B) 60 % of the mean mass per unit length
  - C) 40 % of the mean mass per unit length or less
  - D) 60 % of the mean mass per unit length or less
- **19.** Average number of 3 decitex fibres in a yarn of 20s English Count will be approximately

A)	10	B)	50
C)	100	D)	200

- **20.** The 2.5% span length is numerically nearer to
  - A) Staple length B) Mean length
  - C) Longest fibre length D) Short fibre%
- **21.** For a high speed automatic loom, the loom width-loom speed combination can be
  - A) 100 cm and rpm B) 1.5m and 110 picks per minute
  - C) 72 inches and 125 rpm D) 60 inches and 250 rpm

- 22. The magazine creel is employed for
  - A) Long run of the same warp
  - B) Quick change over from one warp to another
  - C) Saving space
  - D) Saving energy
- **23.** In an automatic loom
  - A) Weft-break is repaired automatically
  - B) Warp-break is repaired automatically
  - C) Exhausted weft bobbin is replaced automatically
  - D) Exhausted warp beam is replaced automatically
- 24. In shuttleless weaving, weft waste is minimum on
  - A) Air-jet loom B) water-jet loom
  - C) Rapier loom D) Gripper (or projectile) loom
- **25.** The speed of tappet shaft on a loom weaving design on 4 ends and 3 picks will be
  - A) same as that of crankshaft
  - B) half that of crankshaft
  - C) one third that of crankshaft
  - D) Three fourth that of crankshaft
- **26.** Data originating from studies that are conducted by others and for a different purpose than the one for which the data are being reviewed are called \_\_\_\_\_\_ data.
  - A) Primary
  - B) Secondary
  - C) Quantitative
  - D) Descriptive

27. A short summary of Technical Report is called

- A) Article B) Research Abstract
- C) Publication D) Guide

**28.** Using the \_\_\_\_\_\_ sampling technique can result in a skewed sample if periodicity exists in the population.

- A) Simple random B) Systematic
- C) Stratified D) Cluster

**29.** Which of the following measurements of central tendency is not affected by extreme values in the sample data set - the mean, median or mode?

- A) The mean B) The median
- C) The mode D) The median and the mode
- **30.** In Research Report\_\_\_\_\_\_is used to acknowledge indebtness
  - A)BibliographyB)Index
  - C) Appendix D) Foot-Notes
- **31.** The order in which participants complete a task is an example of what level of measurement?
  - A) OrdinalB) NominalC) RatioD) Interval
- **32.** When concordant pairs exceed discordant pairs in a P-Q relationship, Kendall's tau b reports a(n)\_\_\_\_\_association between the variables under study.
  - A) Inverse
  - B) Positive
  - C) Negative
  - D) Weak

- **33.** \_\_\_\_\_\_is concerned with discovering and testing certain variables with respect to their association or disassociation
  - A) Exploratory B) Descriptive
  - C) Diagnostic D) None of the above
- **34.** Mr. Ary has conducted an extensive review of the literature and has deductively reasoned a hypothesis about his problem on the basis of this review. Which type of a research plan is Mr. Ary likely proposing?
  - A) Quantitative B) Qualitative
  - C) Ethical D) None of the above
- 35. The original source from which researcher collects information is
  - A) Primary Source
  - B) Secondary Source
  - C) Both Primary and Secondary
  - D) None of these
- **36.** Observation of an event personally by the observer is\_\_\_\_\_
  - A) Indirect observation
  - B) Direct observation
  - C) Controlled observation
  - D) Uncontrolled observation
- **37.** Sending Questionnaire to a respondent with a request to complete and return by post is called
  - A) Mail Survey B) Interview
  - C) Observation D) Panel

- **38.** Questionnaire is filled by\_\_\_\_\_
  - A) Respondent
  - B) Everybody
  - C) Enumerator
  - D) None of the above
- **39.** Two types of errors associated with hypothesis testing are Type I and Type II. Type II error is committed when
  - A) We reject a null hypothesis when it is true
  - B) We accept a null We reject the null hypothesis whilst the alternative hypothesis is true
  - C) hypothesis when it is not true
  - D) None of the above
- **40.** You obtained a significant test statistic when comparing three treatments in a one-way ANOVA. In words, how would you interpret the alternative hypothesis HA?
  - 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
- **41.** Summarizing raw data and displaying them on compact statistical tables for analysis is
  - A) Tabulation
  - B) Coding
  - C) Transcription
  - D) Editing

- **42.** Method in which researcher uses more than one quantitative data collection technique
  - A) Multi method qualitative design
  - B) Mono method quantitative design
  - C) Multi method quantitative design
  - D) Mono method qualitative design
- **43.** \_\_\_\_\_\_ is the classical form of research?
  - A) Experiment
  - B) Case study
  - C) Grounded theory
  - D) Narrative inquiry
- **44.** Statistics is used by researchers to:
  - A) Analyze the empirical data collected in a study
  - B) Make their findings sound better
  - C) Operationally define their variables
  - D) Ensure the study comes out the way it was intended
- **45.** A literature review is based on the assumption that:
  - A) Copy from the work of others
  - B) Knowledge accumulate sandlearns from the work of others
  - C) Knowledge disaccumulates
  - D) None of the above option
- **46.** Preliminary data collection is a part of the
  - A) Descriptive research
  - B) Exploratory research
  - C) Applied research
  - D) Explanatory research

- 47. Which is the characteristic of research
  - A) Data are collected systematically
  - B) Data are interpreted systematically
  - C) There is a clear purpose: to find out things
  - D) All of the above
- **48.** A systematic, controlled, empirical, and critical investigaton of natural phenomen a guided by theory and hypothesis called\_\_\_\_\_
  - A) Applied Research
  - B) Basic Research
  - C) Scientific Research
  - D) None of The Above
- **49.** \_\_\_\_\_ presents a problem, discusses related research efforts, outlines the data needed for solving the data and shows the design used togather and analyze the data.
  - A) Research Question
  - B) Research Proposal
  - C) Research Design
  - D) Research Methodology
- **50.** The quality of a research to produce almost identical results in successive repeated trials reflects it's
  - A) Reliability
  - B) Validity
  - C) Accuracy
  - D) Originality

# OOO

**Rough Work** 

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