

**Avinashilingam Institute for Home Science and Higher Education for Women  
(Deemed to be University), Coimbatore – 641 043**

**Master's Degree Examination - November 2018  
I Semester**

**Class :I M.Sc.**

**Time: 3hours**

**Major : Food Science and Nutrition / Textiles and Fashion Apparel/  
Bio-Textiles**

**Max. Marks: 60**

**17MFNC04/17MTFC04/17MBXC04 Research Methods and Statistical Applications**

**Part A**

**10 x 1/2 = 5**

**Choose the correct answer:**

1. Research which does not involve testing of hypotheses is  
a. conclusive      b. exploratory      c. application      d. action
2. Type of sampling in which each element of population has equally, likely chance of occurrence in a random sample is classified as  
a. regular and irregular sampling      b. error free sampling  
c. inertia sampling      d. simple random sampling
3. Which one of these methods has the highest response rate?  
a. online      b. phone      c. personal      d. postal
4. Closed ended questions are those that  
a. have a fixed range of possible answers  
b. prevent respondents from allocating themselves to a category  
c. encourage detailed, elaborate responses  
d. relate to the basic demographic characteristics of respondent
5. How is a variable name different from a variable label?  
a. It is shorter and less detailed  
b. It is longer and more detailed  
c. It is abstract and unspecific  
d. It refers to codes rather than variables
6. How would you use the drop-down menus in SPSS to generate a frequency table?  
a. Open the Output Viewer and click: Save As; Pie Chart  
b. Click on: Analyze; Descriptive Statistics; Frequencies  
c. Click on: Graphs; Frequencies; Pearson  
d. Open the Variable Viewer and recode the value label
7. If two variables oppose each other then the correlation will be  
a. Positive      b. Zero      c. Perfect correlation      d. Negative
8. Coefficient correlation value lies between  
a. +1 to -1      b. 0 to +1      c. -1 to 0      d. None of these
9. Test to be applied when number of observations are less than 30 and variance is not known, is said to be  
a. Z-test      b. T-test      c. F - test      d. Chi - square test
10. Analysis of variance is a statistical method of comparing the \_\_\_\_\_ of several populations.  
a. standard deviations      b. variances      c. means      d. proportions

**Part B**

**5 x 4 = 20**

**Answer ALL questions**

**Each answer should not exceed 200 words or one page**

- 11.a. State the characteristics of good research.  
(Or)
  - 11.b. What is non probability sampling in research methodology?
  - 12.a. Differentiate between primary and secondary data.  
(Or)
  - 12.b. Explain the significance of pilot study in a research.
  - 13.a. Describe the steps followed in constructing the band graph.  
(Or)
  - 13.b. State the process of following discrete frequency distribution with example.
  - 14. a. State the merits and limitations of Median.  
(Or)
  - 14 .b. Calculate the SD for the following distribution of net profits earned by a group of companies
- |                |       |       |       |       |       |       |       |         |
|----------------|-------|-------|-------|-------|-------|-------|-------|---------|
| Profit (000Rs) | 20-30 | 30-40 | 40-50 | 50-60 | 60-70 | 70-80 | 80-90 | 90 -100 |
| No of company  | 30    | 58    | 62    | 85    | 112   | 70    | 57    | 26      |
- 15.a. Explain the importance of probability.  
(Or)
  - 15.b. How do you test the difference between the means of two samples ( independent variable)

**Part C**

**5 x 7 = 35**

**Answer ALL questions**

**Each answer should not exceed 600 words or three pages**

- 16.a. Discuss about descriptive type of research.  
(Or)
  - 16. b. Explain the different sampling methods of probability sampling.
  - 17. a. Describe the steps followed while conducting an interview.  
(Or)
  - 17.b. Illustrate the process followed in editing and coding of data.
  - 18.a. Explain the components of thesis with an example.  
(Or)
  - 18.b. Discuss the parts of a Table.
  - 19.a. Explain in detail the Karl Pearson "s Coefficient of Correlation.  
(Or)
  - 19.b. i. Explain the salient features of Rank Correlation Coefficient.  
ii. Two judges in a story writing competition rank the 12 entries as follows
- |   |    |   |   |    |   |   |   |   |   |    |    |    |
|---|----|---|---|----|---|---|---|---|---|----|----|----|
| X | 1  | 2 | 3 | 4  | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Y | 12 | 9 | 6 | 10 | 3 | 5 | 4 | 7 | 8 | 2  | 11 | 1  |
- 20.a. Demonstrate how to perform Test of Significance for small samples.  
(Or)
  - 20.b. Explain the applications of ANOVA.

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