

Ph. D. (FOOD AND NUTRITION)
(PHDFN)

Term-End Examination

December, 2024

**RFN-001 : RESEARCH METHODS AND
BIostatISTICS**

Time : 3 Hours

Maximum Marks : 100

Note : (i) *Question No. 1 is compulsory.*

(ii) *Answer **five** questions in all.*

(iii) *All questions carry equal marks.*

1. (a) Explain the relationship between the following sets of terms giving examples :

3×6=18

- (i) Descriptive variables — health of the community.
- (ii) Plagiarism — Research.
- (iii) Sample size — level of statistical significance.

- (iv) Sampling frame — Sample.
 - (v) Research tool — Reliability.
 - (vi) Parameter — Statistics.
- (b) Enumerate any *two* measures of morbidity.

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2. (a) What is normal probability distribution ? Present its basic characteristics. Explain how this can be used in establishing nutritional reference value. 5+5+2

- (b) Briefly explain the *three* types of validity you would check while designing a research tool. 8

3. (a) What is hypothesis ? Explain the basic characteristics of a good hypothesis and the different forms of hypothesis in research. 12

- (b) What is a cohort study ? Explain giving an example. Highlight the advantages and limitations of cohort studies. 8

4. (a) As a researcher you are required to conduct an intervention study. Discuss the importance, types and issues you would keep in mind while designing and conducting the intervention study. 12
- (b) Discuss the characteristics of a good sample. 8
5. Briefly describe the various sampling techniques available to researchers for drawing a sample for the study. 20
6. (a) Explain the various types of tools and their uses in epidemiological research. 10
- (b) What is quantitative data ? Briefly explain the graphs commonly used for representing frequency distribution. 10
7. (a) Given below is a contingent table highlighting anaemia and underweight in a population : 6

Anaemia Status → Weight Status ↓	Anaemic	Non- anaemic
Normal weight	10	30
Underweight	25	15

Calculate the Chi-square value.

- (b) What is Chi-square test and its significance in research ? 6
- (c) What do you understand by the following in research ? 4+4
- (i) Two-tailed and one-tailed test of significance
- (ii) Analysis of Variance
8. Write short notes on any *four* of the following : 5+5+5+5
- (a) Standard error of mean
- (b) Concept of Relative risk
- (c) Measures of Central Tendency
- (d) Uses of product-moment correlation test
- (e) Uses and Limitations of Attitude Scale

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