

**MASTER OF SCIENCE (DIETETICS AND  
FOOD SERVICE MANAGEMENT) (M.Sc. DFSM)**

**Term-End Examination**

**June, 2022**

**MFN-009 : RESEARCH METHODS AND  
BIOSTATISTICS**

*Time : 3 hours*

*Maximum Marks : 100*

**Note :**

1. *Question no. 1 is **compulsory**.*
2. *Answer **five** questions in all.*
3. *All questions carry equal marks.*

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1. (a) What do you understand by Nutritional Epidemiology ? List any two uses of nutritional epidemiology. 4
  - (b) What is a Hypothesis ? What are the different types of hypothesis ? 4
  - (c) Define the following : 4
    - (i) Power (of the study)
    - (ii) Level of Confidence
  - (d) What do we mean by the term Cross-sectional Survey ? 2

- (e) What is Validity of a research tool ? Enlist the types of validity you would check in a research tool. 4
- (f) List any two indicators of morbidity. 2
- 2.** Explain the following in brief, giving examples :
- (a) Descriptive variables for health in a community 5
- (b) Cohort study and its advantages 5
- (c) Use of clinical trial in research 5
- (d) Strength and limitations of correlational studies 5
- 3.** Obesity is emerging as a major public health problem among school children in urban areas. Develop a research proposal to study the prevalence, risk factors associated with obesity among children. Prepare the proposal considering the following components :
- (a) Title of Research Study 2
- (b) Research Objectives 3
- (c) Sample, Sample Size and Sampling Techniques 5
- (d) Research Design 2
- (e) Locale of the Study 1
- (f) Tools and Techniques 5
- (g) Statistical Tools and Analysis of Data 2

4. (a) Discuss the various types of non-probability sampling you may consider for research. 10
- (b) "Questionnaire is a useful tool for research." Justify the statement highlighting the various types of questionnaires commonly used and characteristics of a good questionnaire. 10
5. (a) Differentiate between a Histogram and a Bar chart, giving example. 6
- (b) What are the important graphs you will use to present nominal and ordinal data collected as part of your research ? Explain giving illustrations. 10
- (c) Give any two examples of qualitative data. 4
6. (a) Given is the grouped data. From this data, calculate the mean, median and mode. 10

Class Interval	Frequency
35 – 39	4
30 – 34	8
25 – 29	11
20 – 24	8
15 – 19	6
10 – 14	3

- (b) Compute the product moment correlation for the following data : 10
- A : 35, 45, 46, 48, 50, 55, 58, 60, 65, 70, 75
- B : 46, 40, 38, 50, 52, 54, 55, 60, 64, 72, 80

7. (a) What do you understand by Two-tailed and One-tailed Test of Significance ? 5
- (b) What is a Normal Probability Distribution ? Illustrate the ideal normal probability curve highlighting its characteristics. 10
- (c) With a sample of 225 adolescent girls, with mean (SD) intake of Iron (mg) 25 (5.82), compute the standard error of mean. 5
8. Write short notes on any *four* of the following :
- (a) Application of Chi-square Test for Data Analysis 5
- (b) SPSS — A Comprehensive Statistical Analysis Tool 5
- (c) Measures for Validity of Diagnostic Tests 5
- (d) Uses of Contingency Table in Epidemiological Research 5
- (e) Attitude Scale — Design and Its Uses 5
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