

**MASTER OF SCIENCE (DIETETICS AND
FOOD SERVICE MANAGEMENT)**

Term-End Examination

December, 2017

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

Time : 3 hours

Maximum Marks : 100

Note : *Question No. 1 is compulsory. Answer five questions
in all. All questions carry equal marks.*

1. (a) Define the following : 10
- (i) Null Hypothesis
 - (ii) Two Tailed Test
 - (iii) Sampling Frame
 - (iv) Unstructured Interview
 - (v) Type I Error
- (b) Give one example of each of the following : 5
- (i) Speed Test
 - (ii) Numerical Scale
 - (iii) Structured Observation
 - (iv) Sampling Method
 - (v) Schedule

(c) Fill in the blanks :

5

- (i) Descriptive studies are _____ in nature.
- (ii) Variables are _____ in factorial design.
- (iii) Sampling unit is used for _____.
- (iv) _____ is the advantage of unstructured questionnaire.
- (v) Z-Test are commonly used _____ tests.

2. A researcher wants to study night blindness among children in the age group 2 - 6 years. Design a research proposal with following components.

5+4+3+3+5

- (a) Research Objectives
- (b) Research Hypothesis
- (c) Research Design
- (d) Sample Size Determination
- (e) Data Collection Method

3. Differentiate between the following by giving examples.

5+5+5+5

- (a) Case Control and Cross Sectional
- (b) Sampling Frame and Sampling Error
- (c) Cluster Sampling and Multistage Sampling
- (d) Graphic Scale and Standard Scale

4. Explain the following by giving suitable examples.

- (a) Non Parametric Test
- (b) Frequency Polygon
- (c) Predictive Value
- (d) Power of a test

5+5+5+5

5. (a) Compute variance and standard deviation 5+5
for the following frequency distribution.

Class Interval	Frequency
120 - 124	5
125 - 129	8
130 - 134	3
135 - 139	7
140 - 144	2
145 - 149	9

- (b) Calculate mean, median and mode from the 5+5
following grouped data when frequency is
given.

Class Interval	Frequency
35 - 39	5
40 - 44	3
45 - 49	1
50 - 54	8
55 - 59	2
60 - 64	6

6. (a) Explain any three strengths and three 4+4
limitations of the following research tools.

- (i) Observation
(ii) Official Documents

- (b) In a study done on birth weight and 12
neonatal deaths among 1300 infants, the
researcher observed the following :

- 500 infants were LBW and 300 among
them had neonatal death.
- 800 infants were normal weight and
150 neonatal deaths among them.

Construct a 2×2 Table and calculate the
Relative risk of mortality among LBW and
normal weight infants.

7. (a) Compute the value difference correlation for 10 the following data :
- | | | | | | | | | |
|---|----|----|---|----|---|---|----|----|
| X | 9 | 10 | 8 | 6 | 3 | 1 | 12 | 11 |
| Y | 12 | 9 | 4 | 13 | 6 | 7 | 10 | 9 |
- (b) What are Parametric Test ? Give the uses 5+5 and limitations of Parametric Tests.
8. Write short notes on any four of the following :
- (a) Sensitivity and specificity of tools. 5+5+5+5
 - (b) Double Blind study.
 - (c) Limitation of Altitude Scale
 - (d) Stratified Sampling
 - (e) True Experimental Design
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