

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

Term-End Examination

June, 2015

**MFN-009 : 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) Define the following : 10
- (i) Epidemiology
 - (ii) Variable
 - (iii) Quantitative Data
 - (iv) Probability Sampling
 - (v) Population
- (b) Give one example for each of the following : 5
- (i) Demographic Variable
 - (ii) Rating Scale
 - (iii) Individual Test
 - (iv) Graph for Nominal Data
 - (v) Graph for relation between two variables
- (c) If x_1, x_2, \dots, x_{10} are 10 natural numbers. 5
Calculate the mean, median and standard deviation for the above values.

2. "Child sex ratio shows that girls are disappearing in India". You have to study the reasons for this in your state. Develop a research proposal with the following points :
- | | | |
|-----|--------------------------------|---|
| (a) | Title of the Research Study | 2 |
| (b) | Research Objectives | 3 |
| (c) | Sample and Sampling Techniques | 5 |
| (d) | Research Design | 3 |
| (e) | Research Instruments | 5 |
| (f) | Method of Data Collection | 2 |
3. Explain the following in brief :
- | | | |
|-----|------------------------|---|
| (a) | Statistical Hypothesis | 5 |
| (b) | Cohort Study | 5 |
| (c) | Nominal Scale | 5 |
| (d) | Rating Scale | 5 |
4. (a) Differentiate between the following research designs :
- | | | |
|------|---|---|
| (i) | Pre - experimental and Time experimental | 5 |
| (ii) | One group Pre-test Post-test Design and static group comparison | 5 |
- (b) Differentiate between the following research tools :
- | | | |
|------|---|---|
| (i) | Participant observation and non-participant observation | 5 |
| (ii) | Standardized test and non-standardised test | 5 |

5. Following values were obtained when 5 females and 7 males were tested for Haemoglobin in blood. 20
 Female : 10, 11, 9, 12, 13
 Male : 9, 10, 11, 12, 14, 13, 8
 Is the difference between the mean scores of the males and the females significant at 5% level of significance ?
6. (a) Describe the use of Journals in collecting data for research. 6
 (b) Describe how will you ensure the quality of data. 6
 (c) Describe the issues in the design and conduct of clinical trials. 8
7. (a) Given below is the distribution of weight of ten adolescents girls : 10
 Weight : 36, 40, 42, 38, 47, 50, 33, 52, 41, 46
 Calculate the variance and standard deviation from the above data.
 (b) The theory and practical marks for 10 students are given here with : 10
 Theory (X) : 45 54 52 58 62 46 55 49 50 54
 Practical (Y) : 42 50 55 46 59 41 46 48 45 48
 Find the correlation coefficient between X and Y.
8. Write short notes on any four of the following :
 (a) Characteristics of case study method 5+5+5+5
 (b) Stratified Sampling
 (c) Content Validity
 (d) Advantages of Questionnaire
 (e) Numerical Scale