MASTER OF SCIENCE (DIETETICS AND FOOD SERVICE MANAGEMENT)

Term-End Examination 01961

June, 2012

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) Research
   (ii) Hypothesis
   (iii) Variable
   (iv) Prevalence
   (v) Placebo

   (b) Give one example of each of the following : 5
   (i) Nominal scale
   (ii) Discreet variable
   (iii) Null Hypothesis
   (iv) Open ended question
   (v) Non-parametric test

(c) Fill in the blanks : 5

(i) Measures which are estimated from the samples are called _____.

(ii) _____ is a technique of collecting data by observing activities of individuals in different settings, by talking to them, or studying their constructive or creative products.

(iii) _____ diagram and line diagram are the two graphs for studying the relationship between two variables.

(iv) _____ is a measure of the distance in standard deviations of a sample from the mean.

(v) A complete, accurate and up-to-date list of all the units in a population is called a _____ flame.

2. Undernutrition is a significant health problem among children below 5 years in India. Formulate a research proposal to assess the problem of undernutrition among children below 5 years of age in your district covering the following aspects :

(a) Statement of research problem 2

(b) Research objectives, hypothesis 5

(c) Research design (including study design and sample design) 7

(d) Collection of data (tools, techniques) 4

(e) Analysis and Interpretation of data 2

3. Differentiate between the following giving suitable examples :

(a) Histogram and Bar chart 5

(b) Qualitative and Quantitative data 5

(c) Sensitivity and Specificity of a tool 5

(d) Random and Systematic error 5

4. Explain the following briefly giving suitable examples :

(a) Normal distribution 5

(b) Probability sampling 5

(c) Purpose of correlational studies 5

(d) Characteristics of a good sample 5

5. (a) Following is the frequency distribution of test scores of 40 students. 15

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

Indicate any one type of diagram that would be appropriate to present the given data. Present the data diagrammatically. Give a suitable title to the diagram.

(b) In a sample of 100 children 1 - 3 year of age, mean (SD) intake of calcium = 175 (5.82) mg. Compute the standard error of mean. 5

6. (a) Enlist *any two* strengths of the following : 4

(i) Research design

(ii) Systematic sampling method

(b) What issues would you keep in mind in the design and conduct of intervention studies ? 8

(c) What is the objective of conducting a cohort study ? How is it different from a case-control study ? 8

7. The following table shows the age distribution of cases of a disease reported during a year in a particular state. 20

Age (years)	No.of cases
5 - 14	5
15 - 24	10
25 - 34	20
35 - 44	22
45 - 54	13
55 - 64	5
	Total = 75

Compute the sample mean, median, variance and standard deviation.

8. Write short notes on ***any four*** of the following : 5+5+5+5

(a) Measures of variability

(b) Significance of 'Relative Risk' and 'odds Ratio' in nutritional epidemiology.

(c) Purposes of case studies

(d) Uses and limitations of rating scales

(e) Ensuring the quality of data