

Ph.D. IN FOOD AND NUTRITION (PHDFN)

Term-End Examination

June, 2016

00406

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

Time ; 3 hours

Maximum Marks : 100

Note ; Answer five questions in all. All questions carry equal marks. Question no, 1 is compulsory.

1. (a) List any five descriptive variables you are likely to study while undertaking research. $2\frac{1}{2}$
- (b) Define hypothesis. List the different ways/forms in which the hypothesis can be stated. $2+2$
- (c) What do you understand by Type-I and Type-II errors ? $2\frac{1}{2}$
- (d) Provide any one formula you will use to calculate sample size for estimating population mean with specified precision. $2\frac{1}{2}$
- (e) List the various types of probability sampling. $2\frac{1}{2}$

- (f) List the characteristics of a good research tool. $1\frac{1}{2}$
- (g) List any one rating scale you may use for your research. Illustrate the scale. $1\frac{1}{2}$
- (h) What is a cumulative percentage curve and a column diagram called ? $1+1$
- (i) Name any one graph you would use to represent the nominal or ordinal data. 1
2. (a) What is a normal probability distribution ? Enlist its characteristics. 10
- (b) Enlist the measures used to define morbidity. Explain any two measures in detail. $2+4+4$
3. (a) Consider the following data of scores obtained in a nutrition test :
- 10, 10, 9, 7, 6, 8, 6, 9, 7, 8
- Give the formula you will use and also calculate the mean, mode, median, standard deviation and variance for the data. 15
- (b) What is a contingency table ? Illustrate with the help of an example. 5

4. Differentiate between the following : 5+5+5+5
- (a) Interview and Observations
 - (b) Questionnaire and Schedules
 - (c) Quantitative data and Qualitative data
 - (d) Sensitivity and Specificity
5. (a) Given below are the theory and practical marks for 10 learners :
- x : 45 54 52 58 62 46 55 49 50 54
y : 42 50 55 46 59 41 46 48 45 48
- Calculate the Pearson's r for this data.
What do you infer from this data ? 8+2
- (b) Differentiate between descriptive and observational study design, giving examples. 10
6. Write short notes on any *five* of the following : 5+5+5+5
- (a) Steps involved in Experimental Research
 - (b) Commonly used parametric tests
 - (c) Confidence Interval and Level of significance — its importance in research
 - (d) ANOVA
 - (e) Application of Chi-square test
-