

No. of Printed Pages : 4

PHDFN

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Entrance Test for
Ph.D. (FOOD AND NUTRITION) Programme - 2016

Time : 3 hours

Maximum Marks : 100

Note : *The paper has 2 Sections. Section - A - Research Methodology and Biostatistics and Section - B - Subject specific. Section - A is of 50 Marks. Section - B is of 50 Marks.*

SECTION - A
Research Methodology and Biostatistics

1. Has four parts :

(a) Match the statistical tests in **Column - A** with the description in **Column - B**. 5

| Column - A | Column - B |
|---------------------------|--|
| (A) Odds Ratio | (i) Testing differences in means of more than two groups |
| (B) T - test | (ii) Data is in frequencies |
| (C) F - test | (iii) Bivariate distribution |
| (D) chi-square | (iv) Testing mean against population mean |
| (E) Pearson's Correlation | (v) Likelihood of an event between two groups |
| | (vi) Used in confirmatory and exploratory analysis |

(b) Explain the following briefly : 2½+2½

- (i) Type I and Type II error
- (ii) Two tailed and one tailed test

(c) Match the study design in **Column - A** with the description in **Column - B**. 5

| Column - A | Column - B |
|-----------------------|---|
| (A) Cohort study | (i) Analysis of data collected from a population at one specific point of time. |
| (B) Case control | (ii) Look for relationship between variates. |
| (C) Cross - sectional | (iii) Presentation of detailed information about a particular subject. |
| (D) Correlational | (iv) Treatment procedure intentionally introduced and outcome observed. |
| (E) Experimental | (v) Observe a large group over a period of time. |
| | (vi) Compare group with existing problem with group without problem with respect to exposure. |

(d) Give one example of the Graphical presentation you will use to present the following quantitative data : 5

- (i) Frequency distribution
- (ii) Nominal data
- (iii) Relationship between two variables
- (iv) Ordinal data
- (v) Percentile/quartile

2. Weight measurement (in kg) of 10 boys and 7 girls, 1 to 5 years of age is given.
 Girls : 13, 14, 11, 12, 15, 13, 13 2½+2½+2½+2½+5
 Boys : 10, 16, 12, 13, 18, 13, 19, 14, 13, 12
 Calculate the mean, median, mode, standard deviation and T-value for the data.
3. In your region large number of children are suffering from malnutrition. You are required to find the prevalence and common causes of malnutrition in your region. Design a research proposal with the following points :
- | | |
|--|---|
| (a) Title of the research study | 2 |
| (b) Research objectives | 3 |
| (c) Sample and Sample size determination and sampling techniques | 4 |
| (d) Research Design | 1 |
| (e) Research Tools and Techniques/Methodology | 5 |

SECTION - B
Subject Specific

1. (a) Match the active ingredients in Column - A with the food sources in Column - B. 10
- | Column - A | Column - B |
|-----------------------|------------------------------|
| (A) Selenium | (i) Berries |
| (B) Glutathione | (ii) Soya bean |
| (C) Vitamin E | (iii) Garlic |
| (D) Alpha Lipoic acid | (iv) Sea food |
| (E) Lycopene | (v) Sweet Potato and Carrots |
| (F) Flavonoids | (vi) Almonds |
| (G) Phytoestrogens | (vii) Milk and Milk products |
| (H) Polyphenol | (viii) Tomato |
| (I) Riboflavin | (ix) Dried rasins, tea |
| (J) Beta Carotene | (x) Broccoli, spinach |
- (b) Match the following diseases in List - I with symptoms in List - II. 5
- | List - I | List - II |
|------------------------|---------------------------------|
| (A) Diabetes Mellitus | (i) Heart burn |
| (B) Dyslipidemia | (ii) Proteinuria |
| (C) Nephrotic Syndrome | (iii) Hypercholestrolemia |
| (D) Cirrhosis | (iv) Glycosuria |
| (E) Atherosclerosis | (v) Elevated triglyceride level |
| | (vi) Ascites |

(c) Match the items in **Column - A** with the items in **Column - B**. 5

| Column - A | Column - B |
|------------------------|--------------------------------|
| (A) Dextrinization | (i) Mayonnaise |
| (B) Gelatinization | (ii) Peeled Potatoes |
| (C) Coagulation | (iii) Kneeding of dough |
| (D) Emulsification | (iv) Preparation of paneer |
| (E) Enzymetic browning | (v) Preparation of white sauce |
| | (vi) Toasted bread |

2. Briefly explain the measures, indices and standards you would use to assess the nutritional status of children (5-19 years) using anthropometry in a community. 15

3. (a) What is HACCF ? Give the significance and principles of HACCF. 7½

(b) Discuss the principles of dietary management of liver diseases. 7½
