18CNP03

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2019
(First Semester)

Branch - **CLINICAL NUTRITION AND DIETETICS**

BIOSTATISTICS & RESEARCH METHODS

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)
Answer ALL questions
ALL questions carry EQUAL marks (10x1 = 10)

1 A Research report is a format statement of
(i) Research Process (ii) Research problem
(iii) Solving a problem (iv) Data Editing

2 Outcome of intervention will be obtained by manipulation of which variable - Identify
(i) Dependent variable (ii) Independent variable
(iii) Extraneous variable (iv) Control variable

3 Which sampling design does not fall under probability sampling?
(i) Simple random sampling (ii) Cluster sampling
(iii) Stratified sampling (iv) Purposive sampling

4 Sending Questionnaire to a respondent with a request to complete and return by post is known as
(i) Mail survey (ii) Interview
(iii) Personnel (iv) Through enumerator

5 Total fertility rates provides the basis for
(i) the expected maximum family size (ii) population projection
(iii) population increase in a desired period (iv) notification rate

6 Health statistics does nor constitute Statistics on
(i) political factors (ii) environmental factors
(iii) socio economic factors (iv) infrastructure

7 Which of the variable is a discrete variable?
(i) Mass (ii) Length
(iii) Temperature (iv) Offspring

8 Formula for finding Spearman's rank correlation is
(i) $R= 1+(6ld^2/n^3-n)$ (ii) $R = 1 - (6ld^2/n^3-n)$
(iii) $R = 1 + (6ld^2 / n^2 - n)$ (iv) $R = 1 - (6ld^2 / n - n^2)$

9 The confidence limits for the population mean p and a is known are

(i) $x \pm t\,a/2 - F = \frac{}{vn}$ (ii) $x \pm t\,a/2 - r\ \frac{S}{Vn}$

(iii) $x \pm -)L\ \frac{}{Vn}$ (iv) $x \pm t\,a/2$

10 Type I occurs when we
(i) reject a false null hypothesis (ii) reject a true null hypothesis
(iii) do not reject a false null hypothesis (iv) do not reject a true null hypothesis

SECTION - B (25 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5x5 = 25)

11 a Differentiate between exploratory research and Ex-post-facto research.

OR

b Prepare and bring out the criteria of good research.

12 a Bring out the sources of secondary data and precautions in using the same.

OR

b Precise differentiate between diagrams and graphs using research problem.

13 a Explain the uses of Health Statistics.

OR

b Explain international classification of disease.

14 a Compute the mean weight of 100 persons from he following distribu ions :

Weight (in kg) :	50	55	60	65	70	75	80
No. of persons :	6	11	18	33	19	10	3

OR

b Evaluate Spearman's rank correlation coefficient for rankings of 10 trainees at the beginning (X) and at the end (Y) of a certain course are given below :

X :	1	6	3	9	5	2	7	10	8	4
Y :	6	8	3	7	2	1	5	9	4	10

15 a The following are the systolic blood pressure (mm HG) of 12 patients undergoing drug therapy for hypertension : 183, 152, 178, 157, 194, 163, 144, 114, 178, 152, 118, 158. Can we conclude on the basis of these data that the population mean is less than 165?

OR

b Write the procedure of chi square test for testing independence of attributes.

SECTION -C (40 Marks!

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 8 = 40)

16 a Describe observational studies in research.

OR

b Elaborate cross-sectional studies.

17 a Discuss different types of classification of data.

OR

Age Group :	5-15	15-25	25-35	35-45	45-55	55-65	65-75	75-85
No. of diagnosis :	8	20	28	35	30	25	15	4

18 a Elaborate international classification of diseases.

OR

b Compile formulae for recording mortality, morbidity and fertility rates of population.

Compute Mean, Median and Mode for the following data :

Weight (kilograms) :	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	90-95
Calories burnt :	220	240	280	360	399	405	280	246	210

OR

b Calculate X on Y regression equation using method of least square from the following data. Also estimate X when y - 60.

X :	10	12	13	12	16	15
Y :	40	38	43	45	37	43

20 a In a sample of 1000 the mean is 17.5 and the S.D is 2.5. in another sample of 800 the mean is 18 and S.D 2.7. Assuming that the samples are independent discuss whether the two samples can have come from a population which have the same S.D.

OR

b The following table gives the yields of three varieties of wheat in four plots

	Plot yield			
Variety	I	II	III	IV
A	14	20	16	18
B	21	19	17	15
C	16	18	20	22

Test the significance of difference between the yields o ' the three varieties,

Z-Z-Z END