Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

FOURTH SEMESTER B.Sc. CARDIOVASCULAR TECHNOLOGY/B.Sc. EMERGENCY MEDICAL TECHNOLOGY/B.Sc. CLINICAL NUTRITION & DIETETICS/B.Sc. PSYCHOLOGY/B.Sc. NUCLEAR MEDICINE TECHNOLOGY/B.Sc.HEALTH INFORMATION MANAGEMENT/B.Sc. MEDICAL LABORATORY TECHNOLOGY/B.Sc. ANAESTHESIA & OPERATION THEATRE TECHNOLOGY/B.Sc. PERFUSION TECHNOLOGY/B.Sc. RESPIRATORY THERAPY/BACHELOR OF OPTOMETRY DEGREE EXAMINATION - MAY 2022
SUBJECT: BST 3201/BST 3202 - BIOSTATISTICS AND RESEARCH METHODOLOGY
(2020 SCHEME)

Marks: 50   **Duration: 120 mins.**

Answer all the questions.

1)	Compute the median, inter-quartile range, range and mode for the following data. (2+4+2+2 = 10 marks)	(10)

Systolic Blood Pressure
141
119
122
127
125
122
105
113
106
131

2A)	State the assumptions of simple linear regression	(5)
2B)	Define skewness and kurtosis.	(2)
2C)	Define the three components of descriptive epidemiology.	(3)
3A)	Write a short note on commonly used methods to summarize qualitative and quantitative variables.	(5)
3B)	If the underlying characteristic of interest is continuous and the underlying probability distribution is Gaussian, then, _____ % of the observations will lie within one standard deviation from the mean, _____ % of the observations will lie within two standard deviations from the mean, and _____ % of the observations will lie within three standard deviations from the mean. Define sampling and a sampling frame (3+2 = 5 marks)	(5)
3C)	Define dependent and independent variables with an example. Define the three types of tabulation. (2+3 = 5 marks)	(5)

3D)	Write a short note on systematic and snowball sampling.	(5)
4A)	Give two examples of a continuous variable.	(2)
4B)	Define demography and epidemiology.	(2)
4C)	Probability values range between the values ـ____ and ـ____ whereas Pearson's Correlation coefficient values range between ـ_____ and ـ_____.	(2)
4D)	List any two examples of non-sampling error.	(2)
4E)	List a point of difference between morbidity rate and mortality rate with an example.	(2)

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