



BBZ-202112

Seat No. _____

Fourth Year B. Physiotherapy Examination

August - 2021

Biostatistics & Research Methodology

Time : 2 Hours]

[Total Marks : 40

- Instructions :** (1) All questions are compulsory.
(2) Figures in parenthesis to the right show the full marks of each question.

1. Write comprehensive notes on **any ONE** of the following: (1 X 10 marks) 10
(a) Define Sampling. What are the different methods of sampling in biostatistics? Discuss each method giving example.
(b) Enumerate various epidemiological research methods. Describe Randomized Controlled Trial
2. Calculate **any Three** of the following: (3 X 5 marks) 15
(a) Details of study on arm circumference (in cm) of State "A" and State "B" preschool children are given below. Can we infer that arm circumference is different between State "A" and State "B"? Interpret this data using appropriate statistical test. Write your inference in simple language.

	Students	
	State "A"	State "B"
No. of Subjects	400	450
Arithmetic mean	20.5	15.5
Standard deviation	5.0	5.5

- (b) From the data given in the following table, test whether the prevalence of scabies, in two different sexes is significantly different.

Sex	No. with scabies	No. without scabies	Total
Male	1173	10411	11584
Female	547	7644	8191
Total	1720	18055	19775

- (c) Following are the observation on Serum cholesterol level of 6 individual before and after 3 months of brisk walking. The results are given below. Do the data indicate real improvement in Serum cholesterol level after brisk walking?

Individual Number	S Cholesterol (mg / 100 ml)	
	Before therapy	After 3 months therapy
1	360	250
2	310	260
3	340	230
4	320	200
5	260	180
6	250	200

- d) In a physiotherapy OPD the following patients of different age were examined. Calculate the mean age of patients.

Age in years	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60
No. of Patients	8	12	14	32	34	28

3. Write short note **any FIVE** of the following: (5 X 3 marks)

15

- Rate, Ratio and Proportion
- Characteristics of normal distribution curve
- Pie diagram
- Measures of central tendency
- Difference between 'Qualitative data' and 'Quantitative data'
- Histogram