

QP CODE: 105388

Reg. No:.....

**First Year Master of Optometry Degree Regular/Supplementary
Examinations December 2023**

Research Methodology and Biostatistics

Time: 3 Hours

Total Marks: 80

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw table/diagrams/flow charts wherever necessary*

Essay

(20)

1. What is a normal distribution.

Calculate the arithmetic mean, standard deviation and variance for the following data.

Age in years	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80
No. of persons	8	7	15	18	22	14	10	5

Short Essays

(6x10=60)

2. Distinguish discrete and continuous variables with an example each.
3. List different types of sampling. Explain briefly simple random sampling and stratified sampling.
4. Define sensitivity and specificity of a diagnostic test.
5. What are the steps involved in formulating a research question. Explain briefly.
6. Two regression equations are $3x+2y-26=0$ and $6x+y-31=0$. Find the coefficient of correlation between X and Y.
7. Explain analysis of variance (ANOVA).
