

**BIOSTATISTICS
(COMMON FOR ALL SPECIALITIES)**

Time: 3 Hours.

Max Marks: 100

Note: Answer all questions.

Give Diagrammatic representation wherever necessary.

Analytical based structured question (ABQ)

1 X 20 = 20

1. Describe various Sampling techniques with suitable examples.

Short answer questions:

8 X 5 = 40

2. Explain Correlation analysis.
3. Briefly mention the different methods of data presentation.
4. Explain standard error and confidence interval.
5. Explain the Chi-square test.
6. Define the following: a) level of significance b) power c) type I error
d) type II errors e) P-value
7. Explain vital statistics, their uses and methods of obtaining vital statistics.
8. Write about Karl Pearson's correlation coefficient.
9. Explain the different laws of probability.

Long answer questions:

4 X 10 = 40

10. The weights(kg) of the six study participants are provided below.
Calculate the mean, median, mode, standard deviation and range. Interpret the results.
Weights (in kg): 65,70,75,80,85,90,98,67,58,56,49,50,48,69,75,84.
11. Explain the steps in hypothesis testing. What are the conditions for using parametric tests?
12. Differentiate incidence and prevalence with a suitable example.
13. Explain normal distribution and its properties. What are the applications of normal distribution?
