M.Sc NON-MEDICAL DEGREE EXAMINATION
FIRST YEAR
BRANCH II - BIOSTATISTICS
PAPER III – STATISTICAL INFERENCE, SAMPLING METHODS AND SAMPLE SIZE

Q.P. Code : 282863

Time : 3 hours   **Maximum : 100 marks**

I. Elaborate on :   **(2X20=40)**

1. a) Explain the Neyman – Pearson theory of testing of hypothesis.
    b)   Prove that every most powerful test in unbiased.
2. a) Describe the procedure of stratified sampling and highlight its importance.
    b) In the usual notations prove that
        $V_{st} \leq V_{sys} \leq V_{srs}$

II. Write notes on: **(10X6=60)**

1. The application of normal test for confidence interval
2. Point estimation and Interval estimation.
3. Prove that T^2 is a consistent estimator of Q^2 if T is a consistent estimator of Q.
4. Define most powerful test. Does it exist always? Justify your claim.
5. PPS sampling with replacement
6. Des Raj's ordered estimator
7. Observational errors in sample surveys.
8. The test for goodness of fit.
9. Double Sampling for Ratio estimator
10. Non-response errors and How are they controlled?

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