

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0222]

**FEBRUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 2863

**M.Sc. BIOSTATISTICS
FIRST YEAR (From 2011-2012 onwards)
PAPER III – STATISTICAL INFERENCE, SAMPLING METHODS AND
SAMPLE SIZE
*Q.P. Code : 282863***

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. a) Best linear unbiased estimator and Bhattacharya inequality
b) Derive Kolmogorov Smirnov test
2. a) Methods of drawing simple random sampling with examples
b) In the usual notations prove that
$$V_{st} \leq V_{sys} \leq V_{srs}$$

II. Write Short Notes on:

(10x6 = 60)

1. Maximum likelihood estimators
2. Properties of point estimators
3. UMP unbiased test and Likelihood ratio test
4. Critical region and level of significance
5. Test for goodness of fit
6. Snowball sampling
7. Systematic sampling
8. Quota sampling for proportions
9. Principles of sample size and their importance
10. Sources of errors in surveys
