[LB 1012] **OCTOBER 2012** **Sub. Code: 2855**

M.Sc NON-MEDICAL DEGREE EXAMINATION
SECOND YEAR
BRANCH II - BIOSTATISTICS
PAPER I – RESEARCH DESIGNS
AND BIOSTATISTIC I INFERENCE - II
Q.P. Code : 282855

Time : 3 hours **Maximum : 100 marks**
(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Derive the statistical analysis of 3^2 design.	17	40	20
2. (a) Carry out the analysis of LSD with one missing observation.	17	40	20
(b) Stating the regularity conditions, state and prove Cramer – Rao inequality.			

II. Write notes on :

1. Prove that the regression estimate is more precise than the ratio estimate.	4	10	6
2. Explain Two-factor ANOVA with unequal and equal replications.	4	10	6
3. Distinguish between with and without blocking repeated measure designs.	4	10	6
4. What is BIBD? Establish the relationship between the parameters of BIBD.	4	10	6
5. Explain the main effects and first order interactions in 2^k full factorial design.	4	10	6
6. Explain quota sampling for proportions.	4	10	6
7. Obtain the variance of the sample mean under two-stage sample with equal first stage units.	4	10	6
8. Find MLE of normal parameters *u and* $\sigma^{2.}$	4	10	6
9. Explain method of moment estimator. State its properties.	4	10	6
10. Describe Mann Whitney Wilcoxon test.	4	10	6

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