



TEACHERS' RECRUITMENT BOARD, TRIPURA (TRBT)  
EDUCATION (SCHOOL) DEPARTMENT, GOVT. OF TRIPURA  
SYLLABUS: STATISTICS (MCQs OF 150 MARKS)  
SELECTION TEST FOR POST GRADUATE TEACHER(STPGT): 2017

1. Introduction to Statistics: Definition and Limitation of Statistics. Concept of Population and Sample: Collection, Classification, Tabulation and Diagrammatic Representation of Data. Concept of Variable and Attribute. Questionnaire. Frequency Distribution and its Graphical Representation.
2. Central Tendency and its Different Measures: Quartiles, Deciles, Percentiles and Quantiles. Dispersion and its Different Measures: Moments, Skewness and Kurtosis.
3. Bivariate Data: Scatter Diagram. Correlation: Pearson and Spearman's Correlation Coefficients. Regression: Fitting of Regression Lines, Properties of Regression Coefficient and Lines. Multiple Regression, Multiple Correlation and Partial Correlation in Tri-Variate Cases.
4. Random Experiments: Trial, Sample Space, Sample Point and Different Types of Events. Meaning of Probability, Classical, Statistical and Axiomatic Definitions of Probability. Theorem on Probability of a Union of (two and three) Events, Conditional Probability, Theorem on Conditional Probability on two and three Events. Independence of Events. Banjes Theorem.
5. Random Variables and its Probability Distributions. Cumulative Distribution Function. Probability Mass Function and Probability Density Function. Mathematical Expectation and Moment Generation Function. Uniform (discrete and continuous). Bernoulli, Binomial, Normal and Gamma Distributions.
6. Census and Sample Survey. Parameter and Statistic. Concepts of Probability Sampling and Random Number Tables. Concepts of Sampling Distribution of Statistic and its Standard Error. Simple Random Sampling with Replacement. Simple Random Sampling without Replacement. Stratified Random Sampling. Chi-square, t-distribution and F-distribution.
7. Estimation. Basic Concepts of Point and Interval Estimation. Requirement of Good Estimator (Un-Biasness, Consistency, Efficiency and Sufficiency). MVUE and BLUE. Statistical Test of Hypothesis. Null and Alternative Hypothesis. Simple and Composite Hypothesis. Critical Region and Level of Significance. Type-I and Type-II Errors. Power of Test. Tests Related to a Single Binomial Proportion, Poisson Parameter and two Binomial Proportions using Large Sample Approximations. Exact Test of Hypothesis under Normal Setup for a Single Mean, Equality of two Means, Single Variance, Equality of two Variances and Correlation Coefficient. Frequency Chi-square Test and Goodness of Fit.
8. Vital Events. Rates and Ratios. Sample Registration System. NSSO. Measurement of Mortality, Measurement of Fertility, Gross Reproduction Rate (GRR), Net Reproduction Rate (NRR). Life Table (Simple).

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