



Shri Sangameshwar Education Society, Solapur

Kannada Linguistic Minority Institute

Sangameshwar College, Solapur

(Autonomous)

The Written Test – the First Phase of the Selection Process
for the Post(s) of Assistant Professor

Syllabus

Subject: Statistics

Unit 1: Descriptive Statistics:

Measures of central tendency; partition values; measures of dispersion; moments; skewness and kurtosis; frequency distributions; graphical and diagrammatic representation.

Unit 2: Correlation and Regression:

Scatter diagram; Pearson's correlation coefficient; rank correlation; simple linear regression; regression coefficients; properties and interpretation; coefficient of determination.

Unit 3: Probability Theory:

Basic concepts of probability; conditional probability; independence; Bayes' theorem; random variables; probability mass and density functions; distribution function; mathematical expectation and moments.

Unit 4: Probability Distributions:

Binomial, Poisson, geometric and negative binomial distributions; uniform, exponential and normal distributions; properties, moments and applications; approximation of Binomial/Poisson/Normal distributions.

Unit 5: Sampling and Sampling Distributions:

Population and sample; sampling methods; random sampling; sampling distributions of sample mean and proportion; Central Limit Theorem; chi-square, t and F distributions and their properties

Unit 6: Statistical Inference:

Point estimation; properties of estimators; methods of estimation; confidence intervals; hypothesis testing; null and alternative hypotheses; Type I and Type II errors; p-value; tests for mean, proportion and variance.

Unit 7: Analysis of Variance and Design of Experiments:

One-way and two-way ANOVA; assumptions of ANOVA; multiple comparison concept; principles of experimental design; completely randomized, randomized block and Latin square designs.

Unit 8: Statistical Methods and Data Analysis:

Non-parametric tests; goodness of fit and independence; contingency tables; index numbers; time series; basic statistical computing; interpretation of statistical output and presentation of data.

Unit 9: Teaching Methodology and NAAC