

VEER NARMAD SOUTH GUJARAT UNIVERSITY
F.Y. B.A. Yearly (External)

Statistics Higher Paper – I

[Effective from June-2014-15]

Unit - 1	<u>Function</u>	20 %
	Definition of function, types of functions, linear function, parabolic function, domain, range of function, graph of linear & parabolic functions.	
	<u>Limits</u>	
	Definition of limit, rules of limits, computation of limits by using limit, examples.	
Unit – 2	<u>Differentiation</u>	20 %
	Definition of differentiation, rules of differentiation of function, addition, subtraction, multiplication, division, examples based on definition.	
	<u>Uses of differentiation</u>	
	Maximum & Minimum values of function, Marginal values of function.	
Unit – 3	<u>Permutation & Combination</u>	20 %
	Definition of permutation & Combination, formula, & examples.	
Unit - 4	<u>Elementary theory of probability</u>	20 %
	Definition of probability, Addition law, conditional probability, multiplicative law, independent events, exmples.	
Unit - 5	<u>Mathematical expectation & moments</u>	20 %
	Definition of mathematical expectation, raw moments, central moments, formulas of $\bar{x}_1, \bar{x}_2, \bar{x}_3$.	

Interpolation

Definition of interpolation, uses, elementary methods of interpolation, Newton's method, Binomial expansion, Lagrange's method.

Reference books

- (1) H.D.Shah: Mathematical Statistics. 4th edition University Granthnirman Board Ahmadabad.
- (2) Hoel P.G. (1960): Elementary Statistics; 4th edition Wiley international.
- (3) SPIEGAL: Statistics, 1st edition Mc-Graw-Hill Book Co.
- (4) Goon Gupta & Dasgupta (1962): Fundamental of Statistics, 4th edition, Bhattacharya Word press, Calcutta.

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Statistics Higher Paper – II

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Unit – I : STANDARD DISTRIBUTIONS: (20%)

Standard distributions: Binomial, Poisson and Normal distributions. Its properties and simple examples based on these distributions.

Unit – II : LARGE SAMPLE TEST: (20 %)

Definition based on sampling, Hypothesis, types of the errors. Significant level and standard error.

A. Large sample test for Attributes.

Test of number of success, single proportion, difference of two proportions.

B. Large Sample test for variables

Test for population mean, test of difference of two means, test of different standard variances and test of correction co-efficient.

Unit – III : SMALL SAMPLE TESTS: (20 %)

Concepts of sampling distribution and standard error.

Definition of t,F, t^2 distributions and its application based on small sample tests.

Unit – IV: INDEX NUMBER: (20%)

Meaning of Index Number, Characteristics and uses of it, Construction of whole sale price index number, methods of computation of Laspayes, Pasche, Fisher, Bowley, Marshal Edgeworth index numbers. T.R.T and FRT texts. Construction of cost of living index numbers, laminations of price index number and living index numbers.

UNIT-V : NATIONAL INCOME:**(20%)**

Definition of national income, concept of national income and its uses.

Methods of estimation, Income method, Net product method, Social Accounting method, Limitations of national income.

POPULATION CENSUS:

Various methods of estimation of population censuses, its characteristics advantages and limitations.

Comparison of last two population Census of India.

Recommended Books

1. P.G.Hoel (1960) Elementary Statistics 4th Wiley International
2. Spiegel Statistics 1st MC Grow Hill
Book Co.
3. Goon. Gupta Fundamental of 4th Bhattaahrya word
Dasgupta (1962) Statistics Calcutta.
4. H.D.Shah: Mathematical Statistics. 4th edition University Granthnirman Board
Ahmadabad.