Basic Knowledge

- Statistics the application of logic and objectivity in the undertsanding of events
- Collection, organizing, summarizing, presenting nd analyzing to draw conclusions and making reasonable decisions based on such analysis
- Data .. Result of observations
- Population .. Universe _ collection of sets of groups
  - Finite population
  - Infinite population
- Sample   subset of population
- Inductive statistics…….. Sttistical inferences
- Deductive staisttics …… Descriptive statistics

- Variable ….. Domain
  - Constant … variable with one value
  - Qualitative
  - Quantitative
  - Countinuous
  - Discontinuous
  - Discerete
- Enumeration ……collection of discrete data
- Measurement … collection of countinuous data
- Raw data ……. Unorganized data
- Array …… arrangement of raw data in order of magnitude

Central Tendencies

- Measure of a representative data set in a bid to summerize the data
- Called averages or measuires of central tendencies
- Types
  - › Arithmetic mean
  - › Median
  - › Mode
  - › Geometric mean
  - › Harmonic mean
  - › Weighted Arithmetic mean

- Various examples and methos of determination to be treated in lecture

Probability Theory

- Event (E) happening in a total number of possible ways (Success) is the probability of occurrence
- Probability of Non-Occurrence
- $p + q = 1$
- $Pr(E) + Pr (E) = 1$
- Conditiopnal Probability
- Independent Event
- Dependent event
- Compound event
- Mutually exclusive event

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Combinational Analysis

- Factorial ………… n!
- Permutation ……… nPr

- Combination ……… nCr
- Probability Distribution
- Bionomial distribution
- Normal distribution
- Poisson distribution

Sampling Theory

- Relationship between sample and population
- Random samples and number
  - Methods of determination