Gujarat Board Math Syllabus for Class 11

 Course Structure
Standard: 11
Maths

1 Collection of Data

-Population and Sample
-Advantages of Sample Survey
-Quantitative and qualitative data
-Primary and secondary data.
-Difference between primary and secondary data
-Methods of collection of primary data :
-Direct Inquiry - Merits and demerits
-Indirect Inquiry - Merits and demerits
-Questionnaire Method - Merits and demerits
-Questionnaire by Post - Merits and demerits
-Questionnaire by enumerators - Merits and demerits
-Characteristics of ideal questionnaire
-Construction of questionnaire (new point)
-Sources of secondary data
-Uses of secondary data and precautions required to be taken before using secondary data.
(Examples on construction of questionnaire to be added in the exercise)

2. Classification and Tabulation:
-Variables and Attributes
-Discrete and continuous variables.
-Data - Quantitative and qualitative.
-Classification - ungrouped and grouped data

Type of classification
-Classification of qualitative data
(i) Simple classification
(ii) Complex classification
-Classification of quantitative data
-Discrete frequency distribution (Examples)
-Continuous frequency distribution.
-Cumulative frequency distribution from continuous frequency distributions.
-Formation of original frequency distribution from cumulative frequency distribution (New Point)
-Points to be consider for construction of continuous frequency distribution.
-Tabulation / Types / uses (More illustrations to be given)
-Guiding principles for preparing tabulations. (More examples to be given for tabulation).

3. Presentation of data by graphs and diagram.
-Importance of Graphs and Diagrams in statistics
-Type of Diagrams
-Questions for interpretation of graphs and diagrams

Note: Practical illustrations of graphs and diagram related to Economics, Budget and commerce, Interpretation of such diagram.

4. Measures of Central Tendency
-Meaning Characteristics of ideal average
-Different measures of central tendency
-Calculation of Mean - Explanation of different types of mean simple arithmetic Mean, Geometric Mean. Weighted Mean, Combined mean (New point)
-Median, Mode, Quartiles, deciles, Percentiles, percentile rank - Calculation of each measure.

5. Dispersion
-Meaning - uses (Note : Meaning of dispersion with the help of limitations of average)
-Measures of dispersion (Note : Explain the concept of absolute and relative measures of dispersion)
-Merits, demerits and utility of measures of dispersion
-Comparison between measures of central tendency and dispersion with illustrations.

6. Linear Correlation
-Meaning & Definition of linear correlation.
-Coefficient of correlation - definition and methods - scatter diagram method - examples and explanation with illustrations.
-Perfect positive correlation
-Perfect negative correlation
-Partial Positive correlation
-Partial Negative correlation
-Karl Pearson's Product Moment method - examples and illustration.
-Alternative formulae of Karl Pearson
-Spearans Rank correlation method - explanation - merits, demerits & Sums.
-Interpretation of coefficient of correlation and its precautions.

7. Linear Regression

-Introduction
-Linear Regression Model
-Fitting a regression line
(1) Scatter Diagram Method
(2) Least Square Method

-Regression coefficient
-Different formulae for calculation of regression coefficients.
-Coefficient of determination
-Precautions for using regression coefficient.
-Two regression lines.
-Illustrations

8. Interpolation and Extrapolation
-Meaning and definition
-Uses and importance
-Assumptions
-Method of interpolation and extrapolation
1. Newton's Method
2. Lagranges Method
3. Binomial Expansion method.
(Pascal's triangle explanation - sum of all 3 methods.)

Note : Proof of any formula is not in syllabus.

9.Series
-Meaning
-Types - base on time - Time series, Other series - Arithmetic progression Geometric Progression.
-Time Series - Meaning - definition - Illustration - sums
-Trend and methods of measuring trends - Graphical method, Least square method.
-Other series - Arithmetic Progression is explained in std. XI
-Geometric progression - Explanation meaning - definition illustrations – sum of the series & sum.

10. Probability
-Introduction
-Random experiment and sample space
-Event - Certain event, impossible event other events.
-Definition of probability
-Classical definition and assumption.
-Statistical definition
-Rules of probability
-Sums related to events.

Note : No proof of rules of probability is included in syllabus.

11. Probability Distribution :
-Random variable - Discrete random variable
-Continuous random variable
-Probability Distribution
-Binomial Probability Distribution.
-Characteristics. of binomial probability distribution.
-Binomial probability function and sums based on it
-Normal distribution.
-Function of Normal distribution.
-Standard Normal variable.
-Standard Normal distribution.
-Area of Normal Curve
-Characteristics of Normal Distribution.
-Characteristics of Standard normal distribution.
-Exercise based on normal and standard normal distributions.