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Exercise 14A

Question 1:
Statistics is a branch of science which deals with the collection, presentation, analysis and interpretation of numerical data.

Question 2:
Fundamental characteristics of statistics :
(i) It deals only with the numerical data.
(ii) Qualitative characteristic such as illiteracy, intelligence, poverty etc cannot be measured numerically
(iii) Statistical inferences are not exact.

Question 3:
Primary data: Primary data is the data collected by the investigator himself with a definite plan in his mind. These data are very accurate and reliable as these being collected by the investigator himself.
Secondary Data: Secondary data is the data collected by a person other than the investigator.
Secondary Data is not very reliable as these are collected by others with purpose other than the investigator and may not be fully relevant to the investigation.

Question 4:
(i) Variate: Any character which can assume many different values is called a variate.
(ii) Class Interval: Each group or class in which data is condensed is called a class interval.
(iii) Class-Size: The difference between the true upper limit and the true lower limit of a class is called class size.
(iv) Class-mark: The average of upper and lower limit of a class interval is called its class mark.

$$\text{i.e Class mark} = \frac{upper \quad limit \quad + \quad lower \quad limit}{2}$$

(v) Class limit: Class limits are the two figures by which a class is bounded . The figure on the left side of a class is called lower lower limit and on the right side is called its upper limit.
(vi) True class limits: In the case of exclusive form of frequency distribution, the upper class limits and lower class limits are the true upper limits and the true lower limits. But in the case of inclusive form of frequency distribution , the true lower limit of a class is obtained by subtracting 0.5 from the lower limit of the class. And the true upper limit of the class is obtained by adding 0.5 to the upper limit.
(vii) Frequency of a class: The number of observations falling in a class determines its frequency.
(viii) Cumulative frequency of a class: The sum of all frequencies up to and including that class is called , the cumulative frequency of that class.

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