

ANSWER KEY — COLLECTION OF DATA

Class XI | Economics (Statistics for Economics) | Max. Marks: 40

SECTION A — Multiple Choice Questions

1 x 8 = 8 marks

1. (b) Data collected by a student through a household survey
2. (c) 10 years
3. (b) Direct personal investigation
4. (a) Collection of primary data through sample surveys
5. (b) Every unit of the population is studied
6. (b) Test and refine the questionnaire before the actual survey
7. (c) Census method
8. (b) Secondary data

SECTION B — Very Short Answer Questions

2 x 5 = 10 marks

1. Distinguish between primary and secondary data.

Primary data is data collected first-hand by the investigator for a specific purpose (e.g., a student surveying classmates on their study habits). Secondary data is data originally collected by someone else for a different purpose and later used by the investigator (e.g., using Census of India figures for a project).

2. Two precautions while using secondary data.

(i) Check the reliability, suitability and adequacy of the data for the purpose at hand. (ii) Verify the source, the method of collection used, and the time period/definitions used, since these may differ from the investigator's own requirements.

3. What is a 'sampling frame'?

A sampling frame is the complete list of all units (the population) from which a sample is to be drawn. Example: the school's admission register, from which a sample of students is selected.

4. Two merits of direct personal investigation.

(i) Data collected is original, accurate and reliable since the investigator collects it personally. (ii) Doubts of respondents can be clarified on the spot, and supplementary information can be gathered.

5. Census method vs. sample method.

In the census method, every unit of the population is studied, making it more accurate but costly, time-consuming and impractical for large populations. In the sample method, only a representative part of the population is studied, making it quicker and cheaper, though it carries a sampling error.

SECTION C — Short Answer Questions

3 x 3 = 9 marks

1. Three methods of collecting primary data, with one limitation each.

(i) **Direct personal investigation** – accurate but expensive and time-consuming for large areas. (ii) **Indirect oral investigation** – useful when respondents are not directly accessible, but accuracy depends on the honesty/knowledge of the witnesses. (iii) **Mailing questionnaire method** – inexpensive and covers a wide area, but suffers from a low and possibly biased response rate.

2. Why secondary data must be used with caution — three reasons.

(i) The data may have been collected for a different purpose and may not fully suit the present investigation. (ii) Definitions, units or classifications used originally may differ from what the current investigator needs, causing errors in comparison. (iii) There may be errors of collection, compilation or bias in the original data that get carried forward unnoticed.

3. Three qualities of a good questionnaire.

(i) Questions should be clear, simple and unambiguous. (ii) The number of questions should be limited and arranged in a logical sequence. (iii) It should avoid personal, sensitive or leading questions, and where possible use closed-ended questions for easy tabulation.

SECTION D — Long Answer / Case-Based Questions

5 x 2 = 10 marks

4. Case Study – Model Answers

(a) The student is using **direct personal investigation** through a structured questionnaire; since she is collecting this data herself for the first time, it is **primary data**. (2 marks)

(b) She is using the **sample method**, because she has selected 120 students out of the total 1,200 (a systematic sample) rather than studying every student in the school. (1 mark)

(c) **Advantage:** It saves time, money and effort compared to surveying all 1,200 students. **Limitation:** Since only a sample is studied, the results may involve a sampling error and may not perfectly represent the entire student population. (2 marks; any one valid advantage and limitation to be accepted)

5. Role and scope of two organisations collecting statistical data in India.

Census of India: Conducted every 10 years by the Office of the Registrar General, it collects data on population, housing, literacy, occupation, etc., covering every individual in the country (census method), and provides the most comprehensive demographic database. **National Sample Survey Organisation (NSSO):** Conducts nationwide sample surveys on employment, consumption expenditure, health, education and other socio-economic indicators at regular intervals, using the sample method, and supplements Census data between decennial counts. (Any other valid organisation such as CSO/NSO, RBI, or a State Directorate of Economics and Statistics, with correct role, may also be accepted.)

SECTION E — Practical / Field-Based Activity

4 marks

6. Suggested evaluation rubric for the questionnaire activity.

Criterion	Marks
Relevance of questions to the topic (mode of transport & time taken)	1
Clarity and simplicity of language used	1
Appropriate mix of closed-ended and open-ended questions	1

Logical sequencing and overall presentation of the questionnaire	1
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Sample questions a strong response might include: mode of transport used (bus/car/cycle/walk/other), approximate distance from home to school, time taken one way, whether the mode changes in different weather, and one open-ended question such as 'What difficulty do you face while commuting to school?'

— End of Answer Key —