
Sampling Methods - Edexcel Past Exam Questions

1. A large company surveyed its staff to investigate the awareness of company policy. The company employs 6000 full time staff and 4000 part time staff.
- (a) Describe how a stratified sample of 200 staff could be taken. **(3)**
- (b) Explain an advantage of using a stratified sample rather than a simple random sample. **(1)**
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2. A telephone directory contains 50 000 names. A researcher wishes to select a systematic sample of 100 names from the directory.
- (a) Explain in detail how the researcher should obtain such a sample. **(2)**
- (b) Give one advantage and one disadvantage of
- (i) quota sampling,
- (ii) systematic sampling. **(4)**
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3. A researcher is hired by a cleaning company to survey the opinions of employees on a proposed pension scheme. The company employs 55 managers and 495 cleaners.
- To collect data the researcher decides to give a questionnaire to the first 50 cleaners to leave at the end of the day.
- (a) Give 2 reasons why this method is likely to produce biased results. **(2)**
- (b) Explain briefly how the researcher could select a sample of 50 employees using
- (i) a systematic sample,
- (ii) a stratified sample. **(6)**
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4. Describe one advantage and one disadvantage of
- (a) quota sampling, **(2)**
- (b) simple random sampling. **(2)**
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5. A school has 15 classes and a sixth form. In each class there are 30 students. In the sixth form there are 150 students. There are equal numbers of boys and girls in each class. There are equal numbers of boys and girls in the sixth form. The head teacher wishes to obtain the opinions of the students about school uniforms.

Explain how the head teacher would take a stratified sample of size 40.

(7)

6. (a) State two reasons why stratified sampling might be chosen as a method of sampling when carrying out a statistical survey. (2)
- (b) State one advantage and one disadvantage of quota sampling. (2)
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7. There are 64 girls and 56 boys in a school.

Explain briefly how you could take a random sample of 15 pupils using

- (a) a simple random sample, (3)
- (b) a stratified sample. (3)
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8. Explain how to obtain a sample from a population using

- (a) stratified sampling, (2)
- (b) quota sampling. (2)

Give one advantage and one disadvantage of each sampling method. (4)

9. Explain what you understand by

- (a) a sampling unit, (1)
- (b) a sampling frame, (1)
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- 10.** Before introducing a new rule, the secretary of a golf club decided to find out how members might react to this rule.
- (a) Explain why the secretary decided to take a random sample of club members rather than ask all the members. **(1)**
 - (b) Suggest a suitable sampling frame. **(1)**
 - (c) Identify the sampling units. **(1)**
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- 11.** (a) Explain what you understand by a census. **(1)**

Each cooker produced at GT Engineering is stamped with a unique serial number. GT Engineering produces cookers in batches of 2000. Before selling them, they test a random sample of 5 to see what electric current overload they will take before breaking down.

- (b) Give one reason, other than to save time and cost, why a sample is taken rather than a census. **(1)**
 - (c) Suggest a suitable sampling frame from which to obtain this sample. **(1)**
 - (d) Identify the sampling units. **(1)**
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