Practice questions
Disclaimer: These questions may not reflect the actual exam and only cover some of the concepts.

A3.1 In sample surveys, bias can be controlled by all of the following except
a. using a probability or chance sampling procedure.
b. wording questions so they are not confusing or misleading.
c. careful training and supervision of interviewers.
d. prompting respondents so that they give correct responses.

A3.2 Two variables are confounded when
a. they interact in their effects on other variables.
b. the effect of one variable impacts the other variable.
c. the effect of one variable on the other variable cannot be distinguished.
d. both variables are classified as qualitative variables.

A3.3 True / false: Even random samples can be biased due to poor interviewers and/or poorly worded questions.

A3.4 When we perform a proper experiment, we can
a. establish causation.
b. obtain biased results for the sample statistics.
c. produce experimental results that are confounded with the independent variable.
d. more readily extend the results to the population than with surveys.

A3.5 Which one of the following is NOT a principle of proper experimentation?

a. Randomly allocating subjects to treatments.
b. Confounding the independent variable with a dependent variable.
c. Use of double blind technique to eliminate measurement bias.
d. Use of control group to determine whether treatment really works.

A3.6 Bias can be eliminated in experiments by all of the following except
a. treating all of the subjects in the study in exactly the same way.
b. not permitting the subjects to know which treatment they received.
c. careful planning and attention to detail.
d. haphazardly allocating subjects to treatment and control.
e. randomly selecting subjects from the population.

A3.7 A control group where a placebo is administered to each subject allows the researcher to determine
a. the amount of bias in the results.
b. whether the treatment really worked or whether the subjects responded to a placebo effect.
c. how to match the subjects in the treatment group with the subjects in the control group.
d. the effects of the confounding variables on the outcome.
e. the success rate of new therapies.
The article "Action of Drugs on Movements of the Rat during Swimming" (*J. of Human Movement Studies* (1984): 225-30) described the effects of the drug ephedrine. Rats were placed in a swimming apparatus where swimming movement triggered rotation of an exercise wheel. The number of revolutions during a fixed time interval was recorded both before and after administration of a dose of 5 mg of ephedrine per kilogram of body weight.

**Question A3.8**

This study is an example of

a. an observational study.

b. an experiment.

c. neither an observational study nor an experiment.

**Answers:**

A3.1  d
A3.2  c
A3.3  T
A3.4  a
A3.5  b
A3.6  d
A3.7  b
A3.8  b