MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. Be sure to write your answers in the table provided above

1) Estimation of the IV regression model
   A) requires exact identification or overidentification.
   B) requires exact identification.
   C) is only possible if the number of instruments is the same as the number of regressors.
   D) allows only one endogenous regressor, which is typically correlated with the error term.

2) Estimation of the IV regression model
   A) allows only one endogenous regressor, which is typically correlated with the error term.
   B) requires exact identification or overidentification.
   C) requires exact identification.
   D) is only possible if the number of instruments is the same as the number of regressors.

3) Estimation of the IV regression model
   A) requires exact identification or overidentification.
   B) is only possible if the number of instruments is the same as the number of regressors.
   C) allows only one endogenous regressor, which is typically correlated with the error term.
   D) requires exact identification.

4) Estimation of the IV regression model
   A) requires exact identification or overidentification.
   B) is only possible if the number of instruments is the same as the number of regressors.
   C) requires exact identification.
   D) allows only one endogenous regressor, which is typically correlated with the error term.

5) Estimation of the IV regression model
   A) allows only one endogenous regressor, which is typically correlated with the error term.
   B) requires exact identification or overidentification.
   C) is only possible if the number of instruments is the same as the number of regressors.
   D) requires exact identification.

6) Estimation of the IV regression model
   A) requires exact identification.
   B) is only possible if the number of instruments is the same as the number of regressors.
   C) requires exact identification or overidentification.
   D) allows only one endogenous regressor, which is typically correlated with the error term.

7) Estimation of the IV regression model
   A) allows only one endogenous regressor, which is typically correlated with the error term.
   B) requires exact identification or overidentification.
   C) requires exact identification.
   D) is only possible if the number of instruments is the same as the number of regressors.

8) Estimation of the IV regression model
   A) requires exact identification or overidentification.
   B) is only possible if the number of instruments is the same as the number of regressors.
   C) allows only one endogenous regressor, which is typically correlated with the error term.
   D) requires exact identification.
9) Estimation of the IV regression model
   A) allows only one endogenous regressor, which is typically correlated with the error term.
   B) requires exact identification or overidentification.
   C) is only possible if the number of instruments is the same as the number of regressors.
   D) requires exact identification.

10) Estimation of the IV regression model
    A) requires exact identification.
    B) is only possible if the number of instruments is the same as the number of regressors.
    C) requires exact identification or overidentification.
    D) allows only one endogenous regressor, which is typically correlated with the error term.

11) Applying the analysis from the California test scores to another U.S. state is an example of looking for
    A) simultaneous causality bias.  B) external validity.
    C) internal validity.  D) sample selection bias.

12) A study based on OLS regressions is internally valid if
    A) the OLS estimator is unbiased and consistent, and the standard errors are computed in a way that makes confidence intervals have the desired confidence level.
    B) you use a two-sided alternative hypothesis, and standard errors are calculated using the heteroskedasticity-robust formula.
    C) weighted least squares produces similar results, and the t-statistic is normally distributed in large samples.
    D) the errors are homoskedastic, and there are no more than two binary variables present among the regressors.

13) The reliability of a study using multiple regression analysis depends on all of the following with the exception of
    A) presence of homoskedasticity in the error term.
    B) errors-in-variables.
    C) omitted variable bias.
    D) external validity.

14) Errors-in-variables bias
    A) always occurs in economics since economic data is never precisely measured.
    B) arises when the dependent variable is measured imprecisely.
    C) is present when the probability limit of the OLS estimator is given by \( \beta_1 \rightarrow \beta_1 + \frac{\sigma^2}{\sigma^2 + \sigma^2_x} \).
    D) arises when an independent variable is measured imprecisely.

15) Correlation of the regression error across observations
    A) results in correct OLS standard errors if heteroskedasticity-robust standard errors are used.
    B) results in incorrect OLS standard errors.
    C) is not a problem in cross-sections since the data can always be "reshuffled."
    D) makes the OLS estimator inconsistent, but not unbiased.

16) Possible solutions to omitted variable bias, when the omitted variable is not observed, include the following with the exception of
    A) nonlinear least squares estimation.  B) use of instrumental variables regressions.
    C) panel data estimation.  D) use of randomized controlled experiments.
17) Errors-in-variables bias
   A) is only a problem in small samples.
   B) is particularly severe when the source is an error in the measurement of the dependent variable.
   C) becomes larger as the variance in the explanatory variable increases relative to the error variance.
   D) arises from error in the measurement of the independent variable.

18) The components of internal validity are
   A) a large sample, and BLUE property of the estimator.
   B) nonstochastic explanatory variables, and prediction intervals close to the sample mean.
   C) unbiasedness and consistency of the estimator, and desired significance level of hypothesis testing.
   D) a regression $R^2$ above 0.75 and serially uncorrelated errors.

19) Simultaneous causality
   A) leads to correlation between the regressor and the error term.
   B) cannot be established since regression analysis only detects correlation between variables.
   C) means you must run a second regression of $X$ on $Y$.
   D) means that a third variable affects both $Y$ and $X$.

20) In the case of errors-in-variables bias, the precise size and direction of the bias depend on
   A) the size of the regression.
   B) the correlation between the measured variable and the measurement error.
   C) whether the good in question is price elastic.
   D) the sample size in general.
MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question. Be sure to write your answers in the table provided above.

1) A
2) B
3) A
4) A
5) B
6) C
7) B
8) A
9) B
10) C
11) B
12) A
13) A
14) D
15) B
16) A
17) D
18) C
19) A
20) B