1. Which of the following is not a potential source of error in multivariate regression?
    a. Autocorrelation
    b. Normality in the Errors
    c. Micronumerosity
    d. Multicollinearity
    e. Structural Breaks

2. If cost ($) is on the x-axis of a forecast chart, which of the following projects would be the best?
    a. Positively skewed distribution
    b. Negatively skewed distribution
    c. Zero skewed distribution

3. Which of the following is not a distributional moment?
    a. Mean
    b. Median
    c. Max
    d. Skew
    e. Kurtosis
    f. Coefficient of Variation

4. Which of the following is not a requirement for running real options analysis?
    a. A financial model must exist
    b. Uncertainty must exist that influences and drives strategic decisions
    c. Strategic options must exist
    d. All possible options must be identified and valued
    e. Management must be smart and credible to execute the options optimally

5. On the topic of optimization, which of the following is wrong?
    a. A decision variable can be defined as discrete
    b. A decision variable can be defined as continuous
    c. An efficient frontier is simply multiple optimizations combined into one
    d. Optimization can be run with or without simulation
    e. Optimization is used to find the values of a constraint

6. Which of the following is true?
    a. Tornado charts are used before simulations and sensitivity charts are used after simulations
    b. Truncating a distribution will usually not result in different results
    c. Regular correlations are also known as rank-correlations
    d. Coefficient of variation is the mean divided by the mode

7. Which of the following is a key due diligence question?
    a. How many forecasts do you have?
    b. How many trials are run and why?
    c. How large (in megabytes) is the model?
    d. How many types of distributions are being used in the model?

8. Which of the following is correct and appropriate for a lognormal distribution?
    a. Stock prices
    b. Stock returns
    c. IQ scores
    d. Tossing of a coin 5 times
    e. Minimum, maximum and most likely scenarios
    f. Tossing a coin 1,000 times
    g. Tossing 12 pairs of dice many times
    h. The average number of people standing in line at MacDonald's per hour

9. Which of the following is correct and appropriate for a binomial distribution?
    a. Stock prices
    b. Stock returns
    c. IQ scores
    d. Tossing of a coin 3 times
    e. Minimum, maximum and most likely scenarios
    f. Tossing a coin 1,000 times
    g. Tossing 12 pairs of dice many times
    h. The average number of people standing in line at MacDonald's per hour

10. Which of the following is correct and appropriate for a Poisson distribution?
    a. Stock prices
    b. Stock returns
    c. IQ scores
    d. Tossing of a coin 5 times
    e. Minimum, maximum and most likely scenarios
    f. Tossing a coin 1,000 times
    g. Tossing 12 pairs of dice many times
    h. The average number of people standing in line at a bank per hour

11. Which of the following is correct and appropriate for a triangular distribution?
    a. Stock prices
    b. Stock returns
    c. IQ scores
    d. Tossing of a coin 5 times
    e. Minimum, maximum and most likely scenarios
    f. Tossing a coin 1,000 times
    g. Tossing a single die once
    h. Tossing 12 pairs of dice many times
    i. The average number of people standing in line at MacDonald's per hour

12. What is bootstrap simulation used for?
    a. To perform a Monte Carlo simulation on the model
    b. To find the confidence interval of the statistics of a forecast
    c. To forecast or predict outcomes using simulation
    d. To be an alternative to Monte Carlo simulation

13. Which of the following is not a type of real option?
    a. Option to expand
    b. Option to contract
    c. Option to abandon
    d. Option to maintain
    e. Sequential compound option

14. Which of the following is *incorrect* about solving real options problems?
    a. Options and strategies have to be first framed
    b. Every single option must be identified and solved
    c. Uncertainties or risks must exist in the problem
    d. Real options tend to be more expensive than financial options

15. In an optimization, which of the following are typically required?
    a. Assumptions, forecasts, simulation
    b. Assumptions, objective, decision variables
    c. Objective, decision variables, constraints
    d. Objective, assumptions, constraints
    e. Decision variables, constraints, forecasts

16. If the mean and median of a distribution are either exactly the same or very close to each other, it means that the distribution is:
    a. Skewed
    b. Symmetrical
    c. Normally distributed
    d. A straight line

17. The higher the stock price, the _____ the call option value, and the _____ the put option value.
    a. Higher, lower
    b. Higher, higher
    c. Lower, higher
    d. Lower, lower

18. What is the coefficient of variability or coefficient of variation and what is it used for?
    a. It is the standard deviation divided by the variance
    b. It is used as a measure of expected returns
    c. It is used to compare different distributions with different magnitudes or units
    d. It is the third moment of a distribution

19. Which of the following is correct?
    a. An American option is exercisable at any time up to and including its maturity
    b. An Asian option is exercisable at any time up to and including its maturity
    c. A Bermudan option is exercisable at any time up to and including its maturity
    d. A European option is exercisable at any time up to and including its maturity

20. Which of the following is correct?
    a. A higher volatility means the option value increases
    b. A higher maturity means the option value decreases
    c. A higher dividend means the option value increases
    d. A higher implementation cost means the option value increases

21. A research and development project that is performed in stages can be solved using:
    a. Expansion options
    b. Abandonment options
    c. Sequential compound options
    d. Barrier options

22. *Match the type of option that best describes the situation*: A venture capital (VC) firm has identified a voice recognition hardware-software product combination currently in its infancy stage of development at a small startup company that could potentially be very useful in a variety of future products, from auto navigation system to voice controlling your home appliances. The venture firm then decides to hedge its risks (i.e., the risk is the potential that the hardware-software combination will not work as required) and invests a small sum to buy the right of first refusal for a future investment or to even purchase the company and its intellectual property in the future, for some pre-specified amount that is agreed upon now. This way, the VC gets to participate in the technology if it is successful, but yet only risk a little if unsuccessful.
    a. Option to expand
    b. Option to wait and defer
    c. Option to abandon
    d. Barrier option
    e. Sequential compound option

23. *Match the type of option that best describes the situation:* In deciding whether to purchase the voice-recognition equipment in the previous question, a financial analyst values the potential to sell off or divest the assets of the company in the future should there be no further use of the technology or if a newer and much more potent technology arrives on the market. The ability to do so will in fact reduce the risk the VC has to spend on the technology and allows it to recoup some of its potential losses.
    a. Option to expand
    b. Option to wait and defer
    c. Option to abandon
    d. Barrier option
    e. Sequential compound option

24. *Match the type of option that best describes the situation:* A contractual agreement between two parties that only becomes live if the underlying asset value hits some predefined financial performance levels. For instance, instead of purchasing the entire startup company in the previous example, a high-tech manufacturer can guarantee and agree to buy 10,000 units per year if and only if the market price is below $10,000 each.
    a. Option to expand
    b. Option to wait and defer
    c. Option to abandon
    d. Barrier option
    e. Sequential compound option

25. *Match the type of option that best describes the situation:* Pursuing open architecture (OA) over multiple stages by first performing a proof of concept stage, before several small-scale implementations are executed and then a final larger-scale implementation. For instance, test OA modular development on one coal-fired furnace to see if it works before expanding into multiple furnaces, and potentially to the entire company's plants around the world, once all the bugs are worked out and only if the proof of concept results are encouraging, thereby reducing the risk of multiple systems that do not work, while at the same time obtaining the additional upside potential (not to mention determining the exact benefits derived through trial and error proof of concept stages) of going to OA (lower downtime, reduced cycle time, reduced cost, interchangeable parts, multiple vendor parts for one system instead of relying only on a single vendor for the entire system, and so forth).
    a. Option to expand
    b. Option to wait and defer
    c. Option to abandon
    d. Barrier option
    e. Sequential compound option

26. *Match the type of option that best describes the situation:* Currently pursuing the applications of new 3D scanning technology immediately on board cruise ships and military vessels for small-scale repair purposes, and if the technology works after any technical problems have been ironed out, the scope can be expanded to implement online collaborative tools (requires additional investment) for all types of ship-based maintenance supported by ground crew diagnostic engineering teams. This may mean many types of light to moderate repairs can be done while at sea, rather than having to waste time and resources to divert a ship back to port for repairs.
    a. Option to expand
    b. Option to wait and defer
    c. Option to abandon
    d. Barrier option
    e. Sequential compound option

27. *Which of the following technique is best applied when trying to*: Select the best 5 projects or strategies to implement out of 50 alternatives, subject to some available budget, where you have already valued and quantified the expected returns or benefits, cost to implement, risk levels, and benefit values for each alternative?
    a. Simulation
    b. Forecasting
    c. Optimization
    d. Real Options

28. The Pentagon is currently pondering three military “options” in Iraq, whether to "go big" with a large increase in U.S. forces, "go home" with a rapid withdrawal, or what NBC Nightly News called the most viable “option,” termed "go long" (a temporary boost in U.S. forces followed by a gradual reduction). The "go short" option is also being dubbed the "surge option," according to the New York Times. The idea, "would involve increasing American forces by 20,000 troops or more for several months in the hope of improving security, especially in Baghdad.") What method might be the best among those listed below to obtain subject matter experts’ opinions (military commanders and analysts) on the tactical and strategic advantage of early/late withdrawal with respect to lives lost and continued cost of the conflict?
    a. Hypergeometric approach
    b. Delphi approach
    c. Double-blind test
    d. Stochastic forecasting