**BUS 324 Quiz 4**

**(Optional)**

**Study Guide**

**as of 11/15/22**

**ANOVA**

**1. One-Way Analysis of Variance:**

a) is an analysis of variance design in which independent samples are obtained from two or more levels of single factors

b) has the purpose of testing whether the levels have equal means

c) all of these

d) none of these

**2 .ANOVA** is a technique used to test simultaneously whether the means of several populations are equal. It uses the F distribution as the distribution of the test statistic:

T F

**3. ANOVA assumptions include:**

a) the populations follow the normal distribution

b) the populations have equal standard deviations

c) the populations are independent

d) all of these

e) none of these

**F-distribution**

**4. The F-distribution is:**

a) used to test whether two samples are from populations having equal variances

b) used when an analyst wants to compare several populations means simultaneously

c) samples can be randomly selected

d) all of these

e) none of these

**5. F-distribution is:**

a) continuous

b) cannot be negative

c) positively skewed.

d) asymptotic. As the values of X increase, the F curve approaches the X-axis but never touches it.

e) all of these

f) none of these

**Chi-square distribution**

**6. A Chi-square distribution is:**

a) based on the random sample from a normally distributed population

b) applied to test the standardized sample variances

c) all of these

d) none of these

**Decision Theory**

**7. Decision Theory is:**

a) an analytic and systematic way to tackle problems

b) seeks good decisions based on logic

c) does not depend on intuition

d) process and fact-based

e) all of these

f) none of these

**8. Seven steps of Decision-making include:**

a) clearly define the problem at hand

b) list the possible alternatives

c) Identify the possible outcomes or states of nature

d) list the payoff or profit of each combination of alternatives and outcomes

e) select one of the mathematical decision theory models

f) apply the model

g) make your decision

h) all of these

i) none of these

**9. Sensitivity analysis** investigates how your decision might change with different input data:

T F

**Deterministic Decision Making**

**10. Decision making under certainty is:**

a) a decision-making environment in a decision-making environment in which the future outcomes or states of nature are known.

b) applied in GAPs analysis

c) assumes that the future will look like the past

d) all of these

e) none of these

**11. Decision-making under risk is:**

a) a decision-making environment in which several outcomes may occur as a result of decision or alternative

b) the probabilities of these outcomes are known

c) assumes that the future will look like the past

d) all of these

e) none of these

**12. Decision-making under uncertainty is:**

a) a decision-making environment in which several outcomes may occur

b) the probabilities of these outcomes are not known

c) most people are uncomfortable making decisions in the environment

d) all of these

e) none of these

**13. Criteria for making decisions under uncertainty include:**

a) Maximax (optimistic)

b) Maximin (pessimistic)

c) Criterion of realism (Hurwicz)

d) Equally likely (LaPlace)

e) Minimax regret

f) all of these

g) none of these

**14. Criterion of Realism:**

a) uses the weighted average

b) it utilizes α, which is a symbol for the coefficient of realism

c) is expressed as a number from 0 to 1

d) when it is close to 1, the decision criterion is optimistic.

e) when it is close to zero, the decision criterion is pessimistic.

f) all of these

g) none of these

**15. LaPlace is:**

a) applied when the future state of nature does not matter

b) a decision criterion that places equal weight on all states of nature

c) used as a decision-making tool under conditions of uncertainty

d) all of these

e) none of these

**16. Minimax regret is:**

a) based on the opportunity loss

b) the cost of not picking the best solution

c) used when solving problems under conditions of ambiguity

d) all of these

e) none of these

**Decision Trees**

**17. Decision tree:**

a) is a graphical representation of information

b) it holds the same information as decision table

c) it is used in when the future risks are known

d) it is built from the left and then solved from the right

d) all of these

e) none of these

**18. Expected Monetary Value:**

a) is the weighted sum of possible payoffs for each alternative

b) is the weighted sum of possible payoffs for some alternatives

c) is the possible payoff for one alternative

d) all of these

e) none of these

**19. Expected Value of Perfect Information (EVPI):**

a) places an upper bound on what to pay for information

b) it is the expected value with perfect information minus the maximum EMV

c) applies to analysis under conditions of ambiguity

d) all of these

e) none of these

**20. Which are the steps in the Decision Tree Analysis:**

a) define the problem

b) structure or draw the decision tree

c) assign probabilities to the states of nature

d) estimate payoffs for each possible combination of alternatives and states of nature

e) solve the problem by computing the expected monetary value for each state of nature.

f) all of these

g) none of these

**21. Conditional Value or Payoff is** a consequence, normally expressed in a monetary value, that occurs because of a particular alternative and state of nature:

T F

**22.** In a decision tree, **a** **decision node** is a point where the best of the available alternatives is chosen:

T F

**Utility Theory**

**23. The shape of a person’s utility curve** depends on many factors:

T F

**24. Alternative** isa course of action or a strategy that must be chosen by a decision-maker:

T F

**25. Risk seeker** is a person who seeks risks. In other words, the decision-maker gets more pleasure for a greater risk and higher potential returns:

T F

**26. Risk avoider** is a person who avoids risks. In other words, the decision-maker gets less utility for a greater risk and higher potential returns:

T F

**27. Utility theory** is a theory that allows the decision-maker to incorporate their risk preference and other factors into the decision- making process:

T F

**28. Chance event** is an uncertain future event affecting the payoff associated with a decision.

T F

**29. Conservative approach** is an approach to choosing alternative without using probabilities. For a maximization problem, it leads to choosing the decision alternative that maximizes the minimum payoff; for a minimization problem, it leads to choosing the decision alternative that minimizes the maximum payoff:

T F

**30. Expected utility** is the weighted average of the utilities associated with a decision alternative. The weights are the state-of-nature probabilities:

T F

**31. Expected value approach** is an approach to choosing a decision alternative based on value of each decision alternative. The recommended decision alternative the one that supplies the best expected value:

T F

**32. Expected value for a decision node** is the weighted average of the payoffs associated with a decision alternative. The weights are the state-of-nature probabilities:

T F

**33. Risk Analysis** is the study of the possible payoffs and probabilities associated with decision alternative or a decision strategy in the face of uncertainty:

T F

**34. Utility** is a measure of the total worth of a consequence reflecting a decision maker’s attitude toward considerations such as profits, loss, and risk:

T F

**35. Utility function for money** is a curve that depicts the relationship between monetary value and utility:

T F

**36. States of nature** are the possible outcomes for chance events that affect they payoff associated with a decision alternative:

T F

**37. Monte Carlo Simulation** is asimulation method that uses repeated random sampling to represent uncertainty in a model while representing a real system that computes the values of model outputs:

T F

**38. What-if Analysis** is atrial-and-error approach to learning about the range of outputs for a model:

T F

**39. Verification**  isthe process of determining that a computer program implements a simulation model as it is intended:

T F

**40. Validation**  isthe process of determining that a simulation model provides an accurate representation of a real system.

T F

**Financial Tool for Decision Making**

**41. Net Present Value:** The present value of future cash flows, discounted at the appropriate market interest rate, minus the present value of the cost of investment.

**42. Internal Rate of Return:** a discount rate at which the NPV of the investment is zero.

**43. Discount Rate:** rate used to calculate present value of future cash flows

**44. Capital Budgeting Process:**  planning and managing expenditures for long-lived assets.

**45. Present Value and Future Value of Money:** the value of the future cash stream discounted at the appropriate market interest rate.

**46. Future Value of Money:** the value of the sum after investing it over one or more periods. Same as compound value.

**47. Agency Costs:** Costs of conflicts of interests among stockholders, bondholders, and managers. Agency costs are costs of resolving these conflicts. They include the cost of providing managers with the incentive to maximize shareholder wealth and then monitoring their behavior, and then monitoring their behavior, and the cost of protecting bondholders from shareholders. Agency costs are born by stockholders.

**48. Balance sheet:** a statement showing a firm’s accounting value on a particular date. It requests the equation, Assets=Liabilities +Stockholders’ Equity.

**49. Income Statement:** financial report that summarizes a firm’s performance over a specified time period.

**50. : Cash flow:** is generated by the firm and paid to creditors and shareholders. It can be classified as:

a) cash from operations

b) cash from changes in fixed assets

c) cash from changes in working capital