**OM 305 S23**

**Quiz 3**

**4/20/23**

Your Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Multiple Selection (select all that apply):***

**1. Which of the following apply to the concept of: Learning Curves:**

* The learning curve is a powerful tool for operations manager.

* This tool can assist operations manager in determining future cost standards for items produced as well as purchased.
* In addition, the learning curve can provide understanding about company and industry performance.
* You may consider using three approaches to learning curves: the doubling, formula, table
* None of these
* All of these

**2. Which of the following apply to the concept of Learning Curves?**

* Curves do not differ from company to company.
* Do not “reinvent the wheel”, use other companies’ curves.
* They do not need any historical datasets.
* Typically, are shown as a straight line.
* None of these
* All of these

**3. Simulations:**

* Imitate a real-world situation using mathematics.
* Require random numbers to run.
* Require a mathematical model that can be exercised.
* Will replace “human judgement.”
* None of these
* All of these

**4. Which of the following are steps in the: Simulation Process ?**

* Define the problem
* Introduce the important variables associated with the problem
* Construct a numerical model
* Set-up possible courses of action for testing by specifying values of variables
* Run the experiment
* Consider the results and iterate by modifying the model (and or ) changing the data inputs
* Based on the outcomes of the simulation decide what course of action to take
* All of these
* None of these

**5. Which of the following are the Main Advantages of Simulations?**

* Can be used to analyze large and complex real-world situations that cannot be solved using conventional operations management techniques.
* “Time compression” is impossible. To get answers can take many months or years.
* Simulations allow “what-if” analysis in “the speed of thought”
* None of these
* All of these

**6. Which of the following apply to Simulations:**

* Good simulation models are very expensive.
* It is an iterative approach that may produce different solutions in repeated runs due to the use of random numbers.
* It will always find the optimal solution to a problem.
* Manages must generate all the conditions and constraints for solutions that they want to examine.
* None of these
* All of these

**7. Which of the following are apply to the Monte Carlo Simulation**?

* To be effective can only be run in Monte Carlo.
* Require a probability distribution for key variables.
* Require a cumulative probability distribution.
* Needs an interval of random numbers for each of the key variables.
* Only fractional random numbers can be used.
* None of these
* All of these

**8. Which of the following are not key supply chain strategies ?**

* Long term partnerships with few suppliers.
* Vertical integration.
* Joint ventures.
* Keiretsu networks (build coalitions).
* All are
* None are

**9. Which of the following are major modes of transportation?**

* Trucking
* Railroads
* Airfreight
* Waterways
* Pipelines
* All are
* None are

**10. Which of the following are** **the key steps in preparing a Forecast?**

* Define the use of the forecast.
* Select the items to be forecasted.
* Decide on the time horizon of the forecast.
* Select the forecasting model.
* Gather the data needed to make the forecast.
* Make the forecast.
* Validate the outcome and iterate if needed.
* Implement the results.
* All of these
* None of these

*Multiple Choice*

**11. Forecast are:**

* Easy to make when demand is unstable.
* Easier to make when trend, seasonality, and business cycles are present.
* More accurate when the time horizon is further away.
* All of these
* None of these

**12. Quantitative Models:**

* Are logic and judgement based.
* Are not based on numerical values.
* Incorporate such factors as the decision maker’s intuition, emotions, and personal value system.
* All of these
* None of these

**13 Seasonal Components:**

* Are wavelike patterns that repeat throughout a time-series.
* Have recurrence periods of at most one year.
* Are regular upward or downward movements in a time series that tie to the recurring events.
* All of these
* None of these

**14. Supply Chain Management Objective:**

* Is to build a chain of suppliers that focuses on minimization of value to the ultimate customer.
* Is to create competition between different suppliers.
* Is to outsource and offshore as many tasks as possible.
* Usually follows the negative exponential curve.
* All of these
* None of these

**15. Learning Curves**:

* Are based on the premise that people and organizations get worse at their tasks as the tasks are repeated.
* Are sometimes called the Hubbert Curves.
* The rates of learning do not differ widely between different companies.
* Usually follow the positive exponential curve.
* All of these
* None of these

**16. Coefficient of Correlation:**

* Is a quantitative measure of the strength of causation between two variables.
* Has the range from -1.0 to 0.
* A correlation of -1 indicates a perfect positive linear relationship.
* A correlation of + 0 indicates a perfect positive linear relationship.
* Its symbol is “r.”
* All of these
* None of these

**17. MAD:**

* Is a technique for determining the accuracy of a forecasting model.
* It measures the average magnitude of the forecast errors for a model.
* Is allows for a comparison between the accuracy of different forecasting models.
* All of these
* None of these

**18. Which of the following apply to the Learning Curves?**

* The steeper the slope of the learning curve, the slower the drop in costs.
* Learning curves are defined by complements of their improvement rates. (i.e., an 85% learning curve is better than 75% learning curve).
* Learning curves are useful for a variety of purposes, including labor forecasting, scheduling, establishing costs and budgets.
* All of these
* None of these

**19. Ignoring a Learning Curve will evidence itself as:** :

* Scheduling mismatch leading to idle labor and production facilities.
* Refusal to accept new orders because of the assumed lack of capacity.
* Missing an opportunity to negotiate with suppliers for lower purchase price (quantity discounts).
* All of these
* None of these

**0. In most organizations, the Vendor selection process is:**

* Always fair
* Always objective,
* Always driven be the lowest costs
* Seldom driven by the social and political considerations
* All of these
* None of these

*True of False*

**21. Regression Analysis:** is a forecasting technique that assumes that demand in the next period is not equal to demand in the most recent period.

T F

**22. Forecasting in the Service Sector:** requires good long demand records.

T F

**23. A Residual:** is the difference between the actual value of the dependent variable and the value predicted by the regression model.

T F

**24. Economic Forecast:** is a wavelike pattern within the time-series that repeats itself throughout the time series and has a recurrence period of less than one year.

T F

**25. Naïve Approach to Forecasting:**

Helps organizations prepare medium to long-range forecasts.

T F

**26. Simple Regression:** is the method of regression analysis in which a single independent variable is used to predict the single dependent variable.

T F

**27. Multiple Regression:** is an extension of simple regression analysis. A value of the dependent variable can be estimated using values of two or more independent variables.

T F

**28. Weighted Moving Average: is** a forecasting method that places identical weights on past values.

T F

**29. Forecasting horizon:** is the number of future periods covered by a forecast.

T F

**30. Make-or-buy Decision: is** a choice between producing a component or service within the firm or purchasing it from an outside source.

T F

**31. Outsourcing: involves** transferring back to the firm activities that have traditionally performed by outside vendors.

T F

**32. There is** alwaysa single forecasting method that will produce a perfect forecast.

T F

**33. Coefficient of Determination:**

The coefficient of determination has the symbol of “r.”

T F

**34. Reverse Logistics:** is the process of sending returned products back up the supply chain for value recovery or disposal.

T F

**35. Closed-Loop Supply Chain:** isa supply chain designed to optimize all forward and reverse flows.

T F

**36. Supply Chain Integration Success:** begins with a mutual agreement on goals, followed by mutual trust, and continues with compatible organizational cultures.

T F

**37. A learning curve** is a mathematical model that captures the relationship between the time, costs, and volume of production under consideration.

T F

**38. Ethical concerns** related to outsourcing and offshoring should never be considered. Afterall the business of business is business.

T F

**39. Successful supply chains are never built on the** "Win-Win" (cooperation) principles. They are built on the “Zero-sum game” principles.

T F

**40. Supply Logistics is** the movement of materials, services, funds, and information in a supply chain

T F