**OM 302 F21 Quiz 4 Tutorial 12/12/21**

1. Simulations should always be used before important decisions are to be made. Intuition is a better decision-making tool:

2. The University of Michigan school of thought should never be used in service-based industries:

3. Simulations models are not designed to compute a single, exact numerical answer to a given problem, but to iterate using random numbers and arrive to an answer that has the highest probability of being closest to future outcome.

4. In solving inventory problems, a simulation is able to better handle probabilistic demand and inventory replenishment lead times:

5. Simulations need to reflect the real business environment, Monte Carlo simulations are chance based, simulations can be used in forecasting none are true simulations can be physical or mathematical

6. The key objective of a human resource strategy should not be reduced to implementation of a "hire and fire" policy, paying the lowest wages possible, protecting management from lawsuits.

7. Rock Cafe is an example of organization that hires the best qualified not the best available:

8. The Hard Rock Cafe has a very unique culture that would be a good for someone who likes discipline, order, and structure:

9. The Ritz Carlton organization does not believe in the command and control" managerial style:

10. Even highly skilled workers can be replaced by technology. For example, accountants and lawyers can be replaced by artificial intelligence-based programs. One's flexibility, adaptability, and willingness to learn is the key to future employment:

11. Mr. Erlang is best known using queuing theories to manage the capacity of Copenhagen’s telephone network.

12. The two parts to a queuing system are: the queue and the service:

13. Customers who refuse to join a queue are "balking":

14. The most common discipline of waiting lines is First-In/First-Out

15. The notation M/M/1 describes a one-channel model with Poisson arrivals and exponential service times:

16. The psychology of waiting is as important as the mathematics of waiting lines:

17. Customers who leave a queue are "reneging":

18. Managers have to pay attention to waiting lines because: the possibility of losing goodwill when customers have to wait too long, the possibility of losing business should customers balk or reneg, a possible loss of customer satisfaction, the cost to provide waiting space.

19. Managers have to balance the costs of capacity and service costs with the costs incurred by waiting customers:

20. Simulations are probabilistic techniques designed to evaluate the behavior of operating models under varying conditions:

21. Which of these are the main advantages of a simulation? It is an excellent training tool, compresses time so that managers can quickly discern long-term effects, lends itself to problems that are difficult or impossible to solve mathematically, permits an analyst to experiment with system behavior.

22. Simulations do not produce an optimum solution. Instead, they are good estimation tools:

23. Large scale simulations require significant computing power as well as a high level of mathematical competence:

24. All simulation programs use Random Number Generators:

25. The Harvard University HR model should be used in managing service-based organizations:

26. The following steps are included in a simulation process; identify decision variables, define the problem, construct a mathematical model, find the optimal solution.

27. Simulations can produce better answers to complex problems than mathematical/analytical models:

28. The main characteristics of waiting lines are population source (finite or infinite), patterns of arrivals, number of servers (channels), queue discipline, service rates.

29. The operating characteristics of the system do not include the arrival rate:

30. A multiple-server system exists whenever there are two or more servers working independently inside the system: