warehouse_operation - Questions

Q1. In the notebook, average cycle time increases sharply on certain days even though total orders do not increase proportionally. Which explanation is most consistent with the analytics logic used?

A. Workers were reduced, so throughput collapsed directly
B. Pick rate degraded due to congestion, increasing effective processing time
C. Safety stock was insufficient
D. Forecast error increased arrival rate variance

Correct answer: B. Pick rate degraded due to congestion, increasing effective processing time

Q2. Two days show similar arrival rates but very different utilization levels in the dashboard. Which factor best explains this difference?

A. Difference in order mix
B. Difference in effective workers available
C. Difference in forecast horizon
D. Difference in inventory level

Correct answer: B. Difference in effective workers available

Q3. According to Littles Law as applied in the notebook, if throughput remains constant and WIP increases, what must happen to cycle time?

A. It decreases
B. It remains unchanged
C. It increases
D. It becomes unpredictable

Correct answer: C. It increases

Q4. Why does Scenario B (peak-day shock) create more uneven utilization patterns than Scenario A (uniform demand increase)?

A. Scenario B changes pick rate, Scenario A does not
B. Scenario B applies demand unevenly across days
C. Scenario A ignores congestion effects
D. Scenario B increases safety stock

Correct answer: B. Scenario B applies demand unevenly across days

Q5. In the prescriptive analysis, the rounded required staffing often remains constant even when raw staffing requirement changes. What is the correct managerial

interpretation?

A. The model is insensitive to demand changes
B. Rounding hides pressure until a threshold is crossed
C. Staffing decisions should always follow raw values
D. Congestion effects are irrelevant

Correct answer: B. Rounding hides pressure until a threshold is crossed