SCM 301 (Higgins) – Exam 4 – Practice Exam Answer Key & Solutions

1. **B –** The sum of all product- and logistics-related costs

2. **B, D, and E –** These three answer choices reflect the core management values that W. Edwards Deming is known for.

3. **B –** People, planet, profit

4. **D –** There is more safety/social regulation than ever before

5. **B –** Design

6. **B –** False

   Economy of scale tells us that the cost per unit of weight decreases as the size of the shipment increases. This means we should expect the cost per pound of transportation for the order to decrease; however, the total cost of the transportation for the order will still increase, since we are shipping twice as much weight overall

7. **A –** Firms should focus on generating a profit without damaging the environment or the potential well-being of future generations

8. **D –** Prevention cost

9. **D –** Life cycle analysis

10. **A –** Truck

11. **A –** 3.4 defects per million opportunities (DPMO)

12. **A** – Adapt their business models

13. **C** – The cost per unit of distance decreases

14. **B** – Six Sigma

15. **D** – The reason for the change in value propositions is changes in fashion and lifestyles

    Changes in fashion and lifestyles are the reasons for changes in key customers, not value propositions

16. **C** – Scheduled delivery consolidation

17. **C** – Crosby

18. **C** – To meet the needs of the present without compromising the ability of future generations to meet their needs

19. **B** – Product warranty costs

20. **D** – Appraisal costs

21. **E** – Air

22. **A** – Scrapping defective raw materials

    This is an internal failure cost, not an external failure cost

23. **D** – Disposal

24. **B** – False

    Full trailers of freight are in excess of 15,000 lbs, not 10,000 lbs.

25. **C** – "There's always more room for improvement"

26. **C** – Packaging/transportation

27. **C** – Combines break-bulk and warehouse consolidation activities

A – This is the definition of break-bulk
B – This is the definition of warehouse consolidation
D – This is the definition of hub-and-spoke warehousing

28. **A** – Quality assurance managers have the most power within an organization

29. **A** – Triple bottom line

30. **D** – What kind of packaging each item should receive

31. **D** – Prevention cost

32. **D** – Usage

33. **B** – Consolidation

34. **B** – False

D-M-A-I-C represents Define, Measure, Analyze, Improve, Control

35. **E** – Disposal and/or recycling

36. **D** – All of the above

37. **A** – True

38. **B** – Workers' wages

39. **A** – Transportation

40. **A** – True

41. **D** – Government

42. **A –** The primary cost of the product

43. **D –** Reliability

44. **A –** True

45. **A –** Yes, it will save the company $150

Current cost = $300 * 3 = $900

Consolidation cost = $600 + ($50 * 3)
Consolidation cost = $600 + $150 = $750

Consolidation is $150 cheaper than what we are currently doing

46. **C –** 2.00

In order to reach Six Sigma quality (3.4 defects per million), the specification range needs to be at least 12 standard deviations wide. The range is +/− 12 minutes, so it is 24 minutes. 24 / 12 = 2

47. **A –** True

48. **A –** True

49. **A –** Market area consolidation

50. **B –** False

51. **C –** Delivery

52. **D –** Critical-to-quality characteristics

53. **C –** To prevent an improved process from becoming highly variable again

54. **B –** Cost-to-service tradeoffs

55. **A –** True

56. **D** – All of the above

57. **A** – True

58. **D** – Reduce the purchase price by whatever means necessary

   One of the goals of supply management is to reduce <u>total costs</u>, which involve more than just the purchase price. The true cost of using a product can be much greater than its purchase price, which is why companies focus on reducing their <u>total cost of ownership (TOC).</u>

59. **D** – Spend analysis

60. **B** – Supply chain risk

61. **C** – After the transaction

62. **C** – 4.1

$$Score_X = \sum_{Y=1}^{n} Performance_{XY} \times W_Y$$

   X = Supplier X

   Y = Performance dimension Y

   Weighted-point score = (0.4)(5) + (0.30)(3) + (0.30)(4)

   Weighted-point score = 2 + 0.9 + 1.2 = 4.1

63. **A** – Insource

   Cost to Insource = (Variable cost per unit * # units) + Fixed cost
   Cost to Insource = ($26/unit * 4,100 units) + $24,000
   Cost to Insource = $106,600 + $24,000
   Cost to Insource = $130,600

   Cost to Outsource = Cost per unit from supplier * # of units
   Cost to Outsource = $36/units * 4,100 units = $147,600

We would chose to insource here since insourcing is cheaper than outsourcing

64. **D –** Lower supply management costs

65. **D –** Critical/strategic

66. **B –** Leverage/commodities

67. **C –** Bottleneck/problems

68. **A –** Routine/generic

69. **B –** Outsourcing

70. **D –** Supply management

71. **A –** A product is in the mature phase of its life cycle

72. **A –** Supply chain resilience

73. **C –** The process is extremely innovative

74. **A –** True

75. **A –** True

76. **C –** The total number of red convertibles with less than 20,000 miles to be sold next month