

# OM - Exam Prof Taisch 15.06.21 - Phase 1 R3 Pinzone (in pres. BL27 08): from DECI to GAST

- Choose the correct answer for each question - just one answer is the correct one
- You do not lose points if you choose a wrong answer
- You have 35 minutes to submit from the opening of this form
- Check the time and Submit before the deadline, the starting time and submitting time are stored automatically by the system
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Adriana

**33/35 questions  
CORRECT**

4. Which is the longest time in an operations system?

(1 Punto)

- ☒ Lead Time
- ☐ Value adding time
- ☐ Not-value adding time
- ☐ Throughput time

5. In the HQ case, which of the following is not a consistent decision according to the consolidated market?

(1 Punto)

- ☐ Work procedures strictly recommended.
- ☒ Incentives systems based on quality conformance and delivery speed objectives.
- ☐ Customer base made of few big customers.
- ☐ Meeting the demand according to MTS logic.

6. What are the "CONS" of the leading strategy for capacity management?

(1 Punto)

- ☐ lower production costs, lower impact from overestimating demand, high plant utilization
- ☒ outbound cash flow, higher impact from overestimating demand, higher production costs
- ☐ lower impact of unforeseen events and underestimating demand, spare parts capacity, better delivery reliability
- ☐ lower impact of unforeseen events, high plant utilization, better delivery reliability

7. Which characteristic belongs to a performance that is classified as Order Qualifier?  
(1 Punto)

- ☐ Company's quality performance is very good
- ☐ The performance defines the competitive advantage of the company
- ☒ If company's performance gets worse, the company loses order
- ☐ If company's performance improves, the company gains more order

8. In the HQ case, which are the most significant performance to compete the new market?  
(1 Punto)

- ☐ Quality (conformity) and time (delivery reliability)
- ☐ Price and quality of design
- ☐ Time (speed), price and flexibility (variety)
- ☒ Time (speed), flexibility (product and plan), quality of design

9. How would you define the Heuristic EMSR method?  
(1 Punto)

- ☐ An iterative method used to maximize the profit by appropriately allocating the available capacity whenever there are only three classes of customers. The computation starts from the cheapest class.
- ☒ An iterative method used to maximize the profit by appropriately allocating the available capacity whenever there are more than two classes of customers. The computation starts from the most expensive class.
- ☐ An iterative method used to maximize the profit by appropriately allocating the available capacity whenever there are only three classes of customers. The computation starts from the most expensive class.
- ☐ An iterative method used to set the right overbooking strategy by appropriately allocating the available capacity whenever there are more than two classes of customers. The computation starts from the cheapest class.

10. Investing in cross-trained employees supports company in:  
(1 Punto)

- ☐ Reducing demand variability
- ☐ Increase time-buffer for customers
- ☐ Increase overall capacity
- ☒ Making capacity more flexible

11. Choose the one correct answer:  
(1 Punto)

- ☐ Cost of Underestimation represents the lost revenue associated with reserving too few seats as discounted fare
- ☐ Cost of underestimation represents the cost of reserving too many seats at full fare. As if the empty full-fare seat could have been sold at the discounted price.
- ☒ Cost of Underestimation represents the lost revenues associated with reserving too few seats as full fare
- ☐ Cost of Underestimation represents the lost profit associated with reserving too few seats as discounted fare

12. In a bar, the barman is able to serve 2 people every 8 minutes. The arrival rate of clients has been estimated to be around 10 people every hour. Estimate the saturation of the barman.  
(1 Punto)

- ☐ 0,2
- ☒ 0,67
- ☐ 0,5
- ☐ 1,5

13. Considering a production line, if you want to improve flexibility of planning, which lean technique do you execute?  
(1 Punto)

- ☐ Kanban
- ☒ SMED
- ☐ 5S
- ☐ Value stream mapping

14. You are a manager of a restaurant; if your service process (output) is affected by variability, which lever do you invest in?  
(1 Punto)

- ☐ Promotion
- ☒ Standardization of activities
- ☐ Increasing customer participation in the process
- ☐ Reservation system

15. When you introduce the "overbooking" and you need to estimate the protection level of full price customers, you have to first estimate the cost of underestimation and cost of overestimation. On what type of customers do you compute the marginal analysis?  
(1 Punto)

- ☐ Both the cost of overestimation and cost of underestimation are computed on no-show customers
- ☒ Both the cost of overestimation and cost of underestimation are computed on full price tickets customers
- ☐ The cost of overestimation is computed on full price tickets customers while the cost of underestimation is computed on discounted price tickets customers
- ☐ Both the cost of overestimation and cost of underestimation are computed on discounted price tickets customers

16. Shouldice Case represents a "best practice" of alignment between market and operations. How is its concept built?  
(1 Punto)

- ☐ The concept of Shouldice hospital is based on the low price for hernia surgery

— compared to competitors.

- ☒ The concept of Shouldice hospital is based on both outcome and experience provided to the patients.
- ☐ Shouldice hospital built its concept on the short and predictable time required to patients to recover from hernia surgery.
- ☐ Shouldice hospital built its concept on the outcome, namely the high success rate in the hernia surgery.

17. The assembly stage of Ryccar Spa company processes 5 variants of bikes and works 1350 min/day. Average demand is equal to 50 bikes/day. Assembly stage is fully dedicated and its availability is 75%. Cycle time to assemble bikes is 18min/bike. Assembly stage requires a setup every time the variant change. Changeover time is equal to 35min/setup. Which of the following EPE for the assembly stage is the correct one?  
(2 puntos)

- ☐ EPE= 1,45 days
- ☐ EPE= 0,79 days
- ☒ EPE= 1,16 days
- ☐ EPE= 0,38 days

18. Sailor Spa production process is made by 5 stages with the following EPEs: EPE (S1) = 2,14 days; EPE (S2) = 0; EPE (S3) = 2,51 days; EPE (S4) = 1,42 days, EPE (S5) = 0,66 days.  
Which is the frequency according to which Sailor Spa is able to produce the whole volume and mix required by the customer?  
(1 Punto)

- ☐ Every 1,346 days
- ☐ It depends on the volume and mix required by the customer
- ☒ Every 2,51 days
- ☐ Every 0,66 days

19. In the HQ case, which is the most significant performance to compete the consolidated market?

(1 Punto)

- ☐ Quality (design).
- ☒ Price.
- ☐ Quality (conformity).
- ☐ Time (speed).

20. What are the "PROs" of lagging strategy for capacity management?

(1 Punto)

- ☒ Lower impact from overestimating demand, low production costs and high plant utilisation
- ☐ Lower impact from overestimating demand, spare part capacity and faster response time
- ☐ Higher impact from underestimating demand, longer response time and lower delivery reliability
- ☐ Lower impact of uncertainty and unforeseen events and low production costs

21. You are a manager of a restaurant; if your service process (output) is affected by uncertainty, which lever do you invest in?

(1 Punto)

- ☒ Reservation system
- ☐ Standardization of activities
- ☐ Training
- ☐ Increasing employees participation in process improvement

22. Which of these set of characteristics represent the ideals for yield management?

(1 Punto)

- ☐ Variable capacity, perishable inventory, low capacity change cost and product booked in

- ☐ advance
- ☐ Fixed capacity, perishable inventory, low capacity change cost and ability to segment markets
- ☐ Perishable inventory, high capacity change cost, product sold after its use and fixed demand
- ☒ Fixed capacity, perishable inventory, high capacity change cost, ability to segment markets, fluctuating demand and product booked or sold in advance

23. Which is the most probable decision you can find if a company decides to drive digital transformation through lean principles:  
(1 Punto)

- ☐ Automations in order to exploit new technologies for increasing capacity.
- ☐ HMI technologies in order to improve flexibility of operators.
- ☒ RFID technologies in order to track real time product status.
- ☐ Machine learning for planning in order to reduce number of setups.

24. In a single queueing system, which are the benefits comparing it with multiple queueing system?  
(1 Punto)

- ☒ Shortening of lead-time
- ☐ Reduce the anxiety of customers waiting in line
- ☐ Higher specialization
- ☐ Increasing customization

25. In a grocery store, there are 5 people waiting in line for the payment. There are 2 cash counters and the service rate of each cashier is 2 people every 10 minutes. The clients are served by the two cashiers following a FIFO approach in one single line. What is the queue configuration?  
(1 Punto)

- ☐ 2M/M/2



☐ 2M/M/1

☒ M/M/2

☐ M/M/5

26. Which characteristic belongs to a professional service shop compared to mass service?  
(1 Punto)

☐ Attention to price

☒ Attention to customer specific requirements

☐ Attention to quantity

☐ Process innovation

27. DECAF conditions analysis supports manager in:  
(1 Punto)

☐ Defining optimal level of stocks

☐ Improving planning of production

☐ Increasing availability of a cell

☒ Understanding gap for creating continuous flow

28. Choose the correct answer for M/M/C system  
(1 Punto)

☒ When system utilization increases for the same number of servers, the number of people waiting in queue increases

☐ When system utilization increases for the same number of servers, the number of people waiting in queue decreases

☐ When system utilization increases for the same number of servers, the number of people waiting in queue remains the same

☐ When system utilization decreases for the same number of servers, the number of people waiting in queue increases

29. For a local flight in Italy one can buy a 14-day advance-purchase fare for only 49 euros. The regular full fare price for local flight is 60 euros. On average, all type of passengers buy directly on the flight a brioche that costs 3 euros and coffee for 2 euros. Choose the correct answer

(1 Punto)

- ☐ Co=49
- ☒ Co=49+2+3=54
- ☐ Co=49-2+3=50
- ☐ Co=49-2-3=44

30. Considering an R&D department led by Lean Innovation concepts, which is the most probable context you can find:

(1 Punto)

- ☐ Pushing for perfect learning, launching product on the market only when all the features are completed
- ☒ Pushing for fast learning through many small iterative projects
- ☐ Pushing for fast learning with very big teams in order to have more resources on the same projects
- ☐ Teams working at the same time on more projects in parallel

31. How would you compute "variability"?

(1 Punto)

- ☒ The difference between the average value and the actual value
- ☐ The difference between the average value and the forecasted value
- ☐ The difference between the actual value and the forecasted value
- ☐ None of the previous

32. What are the service product characteristics?

(1 Punto)

- ☐ Simultaneity, Customer Participation, Homogeneity, Perishability
- ☐ Perishability, Intangibility, Time Consuming, Homogeneity, Customer participation
- ☒ Intangibility, Simultaneity, Heterogeneity, Customer Involvement in the service process, Perishability
- ☐ Simultaneity, Heterogeneity, Invisibility, Customer Involvement in the service process, Perishability

33. Which of the following sentences about the future state map is wrong?  
(1 Punto)

- ☒ Once you draw the current state map, you must find improvements area and then draw the future state map. It exists only one future state map for each current state.
- ☐ You need to define (1) material flow, (2) information flow and (3) timeline.
- ☐ The aim of the future state map is to couple all production stages. If you are not able to do so, you can decouple stages with supermarket pull system.
- ☐ The aim of the future state map is to reduce the overall process lead time of the company.

34. During SMED:  
(1 Punto)

- ☐ Setup activities are automatized
- ☐ Internal activities are moved to the beginning or to the end of setup procedure
- ☒ External activities are moved to the beginning or to the end of setup procedure
- ☐ Products are batched in order to reduce setups

35. Which structural elements strengthen the concept of Shouldice?  
(1 Punto)

- ☐ Surgery rooms with U shape which reinforce the teamwork concept among medical staff.
- ☐ Special stairs, designed ad hoc, which enable patients to recover fast from the hernia surgery.

- ☐ Double rooms for patients, meeting rooms (as tea room or TV room) and meetings with employees and patients within the canteen.
- ☒ Double rooms for patients, meeting rooms (as tea room or TV room), special stairs, surgery rooms with U shape (as manufacturing cells).

36. Choose the one correct answer  
(1 Punto)

- ☐ In order to maximize my revenues, it is more convenient to sell all tickets to low cost passengers as I am sure they will buy them all
- ☐ Having fixed capacity of event's seats, we should start selling full price tickets to ensure profit maximization and cover all the seats available
- ☒ Protection level of full price tickets is necessary to avoid cannibalization from discounted price tickets
- ☐ Protection level of discounted price tickets is necessary to avoid cannibalization from full price tickets

37. The role of the "deliberate strategy" in the operations strategy of a company is:  
(1 Punto)

- ☐ to reach the gap with premium class competitors
- ☐ to exploit opportunities emerging from the field in turbulent environment
- ☐ to define investment in new technologies
- ☒ to define a clear line to take many little good choices

38. Consider a manufacturing company producing shirts and define which activity is value adding.  
(1 Punto)

- ☐ Perform a quality control on the colour of the shirts before delivering them to the customers
- ☒ Sew the buttons on the shirts
- ☐ Bring the toolkit to the right place
- ☐ Clean the stations

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