

202223 BACHELOR IN BUSINESS ADMINISTRATION OPERATIONS MANAGEMENT. CONTINUOUS EVALUATION EXERCISE - LESSON 4 + LESSON 7 Group: OR PROFESSOR: Emilio Camarena

Name: _____ **Date:** _____

Please mark the option you believe to be correct – there is only one correct answer per question. Each correct answer will be credited with 0.6 points, and each wrong answer will result in a deduction of 0.3. The exercise is worth 4 points. The total rating of the quiz is 10 points.

- 1) Buster Inc is trying to decide between two types of photocopier for its new offices. The Alpha type costs €6,525 and each copy costs €0.005. The Beta type costs €8,250 and the copies costs €0.003 each. Buster plans to use the machine during six years and intends to make approximately two million copies. Using the total lifecycle cost (TLC) we can say:
 - a) The TLC of Beta will be €13,250 and the crossover point is 166,500 copies per year.
 - b) The TLC of Beta will be €8,250 and the crossover point is 990,000 copies per year.
 - c) The TLC of Alpha will be €16,525 and the crossover point is 143,750 copies per year.
- 2) In the assembly line (or repetitive chain-based process approach), unit costs and system flexibility are characterised by:
 - a) Low unit costs and high flexibility.
 - b) Low unit costs and low flexibility.
 - c) High unit costs and high flexibility.
- 3) OrangeField, an engineering company based in Valencia, has developed a machine for the selection of oranges, based on criteria that include appearance, information received from the supplier, and a sophisticated procedure for the taking of the final decision of accepting or rejecting the fruit. Which technologies have been mentioned in the text?
 - a) Seeing-sensing and communicating technologies.
 - b) Seeing-sensing and thinking-reasoning technologies.
 - c) Thinking-reasoning and object-moving technologies.
- 4) The Smiths Inc. company has a productive process with a focus on process. Hence, its main features will be:
 - a) The unit cost of its products will be low and there will be few instructions with the production orders.
 - b) Personnel will have broad skills and there will be many instructions when production orders are issued.
 - c) Production batches will be large and made with general purpose equipment.
- 5) Banks are firms whose service customisation level is low, but labour content is high. Hence, the main techniques for service improvement are:
 - a) Automation, innovation in process technology, and training.
 - b) Automation, scheduling, and focus on human resources.
 - c) Automation, tight control, and focus on human resources.
- 6) The marketing consultancy Agroconsult works exclusively for agri-food companies. Its specialty is launching new products; and for this purpose, on each occasion, the consultancy must study the characteristics of the target market and the client to determine the features of the new product and its launch. The productive process of the consultancy:
 - a) forms a service alliance due to the way it works with the client.
 - b) forms a service alliance due to the high specialisation of the service.
 - c) is a project implementation service since the result is unique in each case.
- 7) Siemens Home Appliances assembles modules on assembly lines, with the final products having different finishes depending on the combination of modules used. The company is always looking to obtain the best use of personnel. The plant layout is:
 - a) process oriented.
 - b) product oriented.
 - c) a project or fixed position.
- 8) The Lopez Restaurant has found a sure recipe for success. It aims at a cost-conscious customer, and has a menu with 6 first courses, 6 second courses, and 6 desserts for a fixed price of €12 (lunch) and €15 (dinner), plus beverages. Nothing is served outside these menus. The restaurant makes a profit with these reduced prices. Which operations techniques has it used in its offer?
 - a) It has focused on a limited product offer.
 - b) It has invested heavily in automation to offer these low prices.
 - c) It has focused on a cost-conscious customer segment.
- 9) JIT makes quality products in small batches. By reducing the size of orders, the number of orders increases and:
 - a) Picking cost are reduced.
 - b) Inventory levels and warehousing costs are reduced.
 - c) Possession and issue costs increase.
- 10) Among the techniques used in the JIT approach are:
 - a) Empowered and cross-trained employees, as well as small batches.
 - b) Statistical process control and many job categories.
 - c) Small batches and many suppliers.

Exercise

You have just been hired as a purchasing manager by Mind Corp. Your first objective is to reduce inventory costs. The main product that your company stocks and distributes is the PLC-3X1S (whose only manufacturer is the Dutch company Hanssteink, and it charges you €8.50 for each one). You usually place a weekly order of 250 units, which takes 9 working days to be delivered, so you wonder if you can reduce costs by changing the order frequency. You have estimated that all orders placed in a year have an associated issue cost of about €3,200 while keeping a PLC-3X1S in the warehouse for a month costs 87 cents.

- a) What is the annual acquisition cost?
- b) What is the current annual inventory cost for Mind Corp's PLC-3X1S?
- c) By what percentage would you be able to reduce inventory costs by applying EOQ?
- d) In that case, how many PLC-3X1S would you order each time?
- e) How often would you place an order?
- f) How many PLC-3X1S should be in the warehouse before you know that another order must be made?

NOTE: Consider a week as 5 working days, a month as 4 weeks, and a year as 12 working months.