

Reg. No. _____ Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SECOND TRIMESTER MBA DEGREE EXAMINATION FEB 2019

MBA 24 OPERATIONS MANAGEMENT

Max. Marks: 60

Duration: 3 Hours

Part A

Answer all questions. Each question carries 2 marks

1. Distinguish between manufacturing operations and service operations
2. Write the formula for Capacity Utilization
3. Enumerate various types of factory layout. Which layout is used in locomotive industry?
4. Distinguish between MRP-I and MRP-II.
5. Explain EOQ using suitable formula.

(5x2 marks = 10 marks)

Part B

Answer any 3 questions. Each question carries 10 marks

6. Discuss competitive strategy. List out the five basic competitive priorities that have to be considered in formulating operations strategy for a firm.
7. Explain (i) TQM (ii) Elements of TQM (iii) TQM Tools .
8. What is “make or buy” analysis? Elaborate on the various factors to be considered in make or buy decisions.
9. The ABC Fun novelty company buys 80,000 shipping container per year. Ordering cost per order is Rs.80 and carrying cost per item per year is Rs.0.16. Find EOQ and time between orders based on 220 working days per year.
10. Explain the following
(i) Kanban (ii) KAIZEN (iii) POKA YOKE (iv) JIT

(3x10 marks = 30 marks)

Part C

Compulsory question, the question carries 20 marks

11. When Volkswagen AG decided to produce its new Beetle in Mexico, its goal was to transfer to that country the lean manufacturing techniques and supplier park concept employed at its SEAT subsidiary production facility in Martorell, Spain, one of the world’s largest automotive production facilities in terms of daily output. The facility produces nearly 2000 cars daily in seven different models with the support of its pre-assembly supplier park located 2.2 kilometers from the factory. The challenge faced by Volkswagen was how to export quickly and efficiently this extremely effective just-in-time (JIT) supplier park model to

Puebla, Mexico. That's when Volkswagen invited Excel, the global logistics and supply chain services provider that designed, engineered, and now operates the SEAT Park, to work with them in Mexico. Excel had an established infrastructure in Mexico providing services to clients such as Procter & Gamble, which was expected to expedite the transfer process. The SEAT Pre-Assembly Supplier Industrial Park in Spain was created near the factory to support its lean manufacturing strategy. Subassembly activities are carried out at the Park, guaranteeing JIT delivery and zero stocks at SEAT assembly lines. Twenty-five suppliers are located there, providing parts or subassemblies. Excel is responsible for primary transport from the component supplier's main plants to the Park, and also for warehousing, picking, subassembly and sequencing operations, and JIT deliveries to the SEAT assembly lines. In January 1998, at Volkswagen's Mexican assembly plant in Puebla, Excel implemented the JIT sequencing operation; with limited modifications to the SEAT model. Currently, the Mexican plant produces more than 1600 vehicles daily including the Beetle and the Jetta. The operation provides parts and components to the assembly line with as little as one hour's notice. The Excel JIT sequencing operation is the cornerstone of a supplier industrial park that serves the Volkswagen assembly plant. Excel is responsible for the assembly, staging, and delivery of parts and components from more than a dozen suppliers in that industrial park to the assembly line. Parts delivery is scheduled to take place within 40 minutes of an order, with one car built every 40 minutes, 24 hours a day, 6 days per week. Parts are to be delivered directly to specific locations on the assembly line. The end result is that Excel provides Volkswagen with expert logistics and supply chain management to support operations in a new, modular JIT manufacturing environment. Actually, this represented the first Volkswagen Mexico manufacturing park logistics operation to be managed by a single supply chain specialist. Overall, the involvement of Excel in Volkswagen's Puebla, Mexico operation demonstrates significant capability to transfer technology, human resources, and best practices on a global basis.

Questions:

- 1) Explain JIT advantages at the Volkswagen Plant. (8)
 - 2) Why GM Chose Mexico for its manufacturing? Give your views on the same (12)
- (20 marks)
