

**VPM's**  
**Dr. V. N. BRIMS, Thane**  
**Programme: PGDM (2014-16) Fourth Batch**  
**First Semester Examination September 2014**

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**Subject: Operations Management**

Roll No.	:	Marks	: 60 Marks
Total No. of Questions	: 7	Duration	: 3 Hours
Total No. of printed pages	:	Date	: 24/9/2014

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**Note: Q1 is compulsory and solve any FOUR from the remaining SIX questions.**

**Q1) Read the following case and answer the questions given below: (20 Marks)**

This case study is about quality mgmt at Toyota Motor Corporation (Toyota), the world's leading automaker. Over the years, the Japanese automaker had built up a reputation for manufacturing reliable cars and trucks. Toyota's products were a byword for quality for customers so much so that its manufacturing techniques were followed by its competitor's world over. Toyota's commitment to manufacturing world class and quality automobiles was entrenched in its entire manufacturing philosophy right through the development stages to manufacturing. At Toyota, quality was in built into each manufacturing process and employees from all divisions ensured that defective items did not pass on to the next process.

At the core of the company's success was the Toyota Production System (TPS), which made use of concepts like genchi genbutsu, Just-in-Time (JIT), Kaizen, Kanban, and Jidoka to reach a high level of efficiency in production. Toyota recognized quality as one of the most important factors affecting customer satisfaction and strove to achieve excellence in manufacturing quality products. To ensure zero defects in the finished product, Toyota set up quality assurance systems across various divisions, including development, purchasing, and production. To overcome quality assurance problems caused due to rapid globalization, Toyota adopted the "Toyota Way" – a set of mgmt principles and communicated them to all its overseas manufacturing plants.

Due to its efficiency in manufacturing, Toyota became one of the most trusted brands in the global automobile industry. But some analysts felt that Toyota had become a victim of its own success. In the mid-2000s Toyota expanded its production facilities rapidly in a bid to grow globally and to achieve its goal of becoming the number one auto maker in the world. Toyota's rapid growth affected its product quality with the company reportedly compromising on its manufacturing techniques. Customers began to face safety related problems in Toyota vehicles. Later a series of recalls followed which put the company's hard earned reputation for quality at risk.

Analysts opined that constant recalls had damaged the reputation and brand image of Toyota and hindered its return to profitability. In a quest for market share, Toyota had sacrificed its legendary quality and ignored its own mgmt principles and customers, they said. To verify the cause of recalls and improve quality, Toyota set up a committee headed by its president Akio Toyoda in early 2010. The committee was to inspect every process in the Toyota Production System to ensure delivery of quality products to customers.

**Questions:**

- 1) Explain Toyota Production System. Why Toyota became victim of its own success?
- 2) What you understand by the word 'Toyota Way'?

**Attempt Any FOUR from the Remaining SIX Questions**

**Q2) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) Expand the following: a. MRP b. SQC c. TQM d. FIFO e. CPM
- b) What are the different components of production function? Discuss them briefly.
- c) Differentiate between production planning and production control.

**Q3) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) ABC analysis is a very useful approach for selective inventory control. Do you agree with this statement? Explain with an example.
- b) Draw the network diagram for the following data:

Task	A	B	C	D	E	F	G	H
Immediate Predecessors	--	--	A	A	C,D	B,E	B	F,G

- c) What is safety stock? Why should it be kept by an organization?

**Q4) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) What do you understand by the term "SQC?"
- b) What are the different tools (at least 2) of quality control? Give appropriate examples.
- c) Determine capital productivity for the following data: 100 numbers of a particular toy is produced by spending inputs worth 1000 INR rupees. Each toy is sold.

**Q5) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) A biotech company produces chemicals to sell to wholesalers. One of the raw material it buys is sodium which is purchased at the rate of 22.50 Indian rupees per ton. Biotech's forecasts a show a estimated requirement of 5,75,000 tons of sodium for the coming year. The annual total carrying cost for this material is 40% of acquisition cost and the ordering cost of 595 Indian rupees. What is the most economic order quantity?
- b) Define work measurement. What are its uses?
- c) Explain the scope of MRP in manufacturing operations.

**Q6) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

a) Silver moon Hotels have been run by the Wadia family since the 1940s. Wadia Group, through its subsidiary companies are also into travel and tourism, event management, and marketing services. Dina Wadia is the present Chief Executive. Her only son and heir apparent, 18 years old Shiraj Wadia recently died in an air crash. Dina has now decided that her successor would be someone outside of her family. As the CEO's position was always held by family members there has been neither internal competition nor grooming of other managers at Silver moon Hotels for the CEO spot resulting in a deficiency of internal candidates. With the support of the Board, Dina has hired an external firm to lead the search process for her successor, which would consider candidates both inside and outside the company.

Case Study Question: If you are the external firm consultant, how would you approach the selection of the non family CEO?

- b) Explain briefly Deming's PDCA cycle.
- c) Discuss the benefits of Inventory Management.

**Q7) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks**

- a) Discuss what role can work study play in efficient operations of enterprise?
- b) Determine machine productivity for the following data: 2 machines produced 80 good pieces of a part in 8 hours.
- c) What do you mean by term "project?" What are the characteristics of a good project?