INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management

June 2011

Graduate Diploma in Materials Management

PAPER No. 8
Operation Management

Date : 14.06.2011 **Max. Marks :100**
Time : 10.00 a.m. to 1.00 p.m. **Duration : 3 Hrs.**

Instructions :
1. From Part A – answer all questions (compulsory). Each sub questions carries 1 mark. **Total : 32 Marks**

2. From Part B – Answer any 3 questions out of 5 questions. Each sub-question carries 16 marks. **Total : 48 Marks**

3. Part C is a case study (compulsory) with questions. Read the case study carefully and answer the questions **Total: 20 Marks**

4. Please read the instructions given in the answer sheet

Part -A

Q.1. State true or false. Marks: 08

a) Production management is viewed as a continuous process of planning, organizing and controlling.

b) Time series forecasting methods, also known as intrinsic methods.

c) Production function is not primary function an industrial function of enterprise.

d) Production planning and control are not closely linked each other.

e) TQM is systematic problem solving for continuous improvement.

f) The make-or-buy question represents a fundamental dilemma faced by many companies.

g) JIT is used in business manufacturing process to reduce the production cost with lower down the quality.

h) Machine breakdowns result increase in production capacity.

Q. 2 fill in the blank. Marks: 08

2.1 Artificial Neural Network, usually call ----------network.

2.2 ---------- involves the projection of past into the future.

2.3 ---------- is a Japanese management philosophy adopted in early 1970 in many manufacturing organization.

2.4 Effective material management ensures right materials, in right quantities, at right price at -------

2.5 Customer orders are the prominent focus on ---------- management.

2.6 --------- rotation moves employee from one task to another.

2.7 ---------- maintenance is the best policy of maintenance department.

2.8 TQM is systematic problem solving for …….. improvement.

Q. 3. Link & Connect the following correctly. Marks: 08

3.1 MCDA	TQM in Japan
3.2 Taguchi Method	Decision Making Tool
3.3 AST	Being one time
3.4 Dependability	Solving Quality Problem
3.5 Time Series Analysis	Marketing Decision Making Tool
3.6 Product Life Cycle	Forecasting Models
3.7 LOB	Deming Wheel
3.8 TQM	Planned Delivery Schedule

Q4. Expand Following Marks: 08

4.1 MRP

4.2 CAM

4.3 SQC

4.4 FMS

4.5 TQM

4.6 SBU

4.7 QCC

4.8 PLM

PART-B

Answer any three from following.

Q.5 a) Explain the current issues in Operation Management? Provide Example. Marks: 08

b) Explain Time Series Analysis forecasting model. Marks: 08

Q.6. a) Explain the different stages in product life cycle Marks: 08

b) What is meant by 'Electro Discharge Machining' (EDM)? Marks: 08

Q.7. a)Describe the objective of plant layout. Marks: 08

b) What are the objectives of MRP? Explain how each of these objective is achieved? Marks: 08

Q. 8. a) Outline various types' maintenance. . Marks: 08

b) What do you understand Kanban Cards? Marks: 08

Q.9. a) Explain the quality control techniques. Marks: 08

b) Explain the Ergonomics and its benefits to improve productivity. . Marks: 08

PART-C

Read the case below and answer the question (s) given at the end.

This case study is about quality management 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 management 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 management 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. Marks: 08
2) Why Toyota become victim of its own success? Marks: 06
3) What you understand the word 'Toyota Way'? Marks: 06

****