PART A (32 marks)
(Compulsory. Each sub-question carries 1 mark)

Q.1. Fill in the blanks [8 marks]
   i) ___________________ method uses a CAD database as input to generate wax or nylon slices of component layer by layer.
   
   ii) ___________________ is a philosophy that believes in defect prevention rather than finding and fixing it.
   
   iii) Theory of constraints suggests that no manufacturing can work faster than its __________ operation.
   
   iv) Simple and inexpensive method of encoding text information that can be read by electronic readers ________ .
   
   v) ________________ is the ability to collect the instant payment. and face to face with the potential customer.
   
   vi) ____________ is the technique of determining the quantity and time requirement of materials in manufacturing industry.
   
   vii) Take stock of current business situation both in terms of enterprise itself and its environment------________. analysis.
   
   viii) ________________ is a primary feature of performance measurement in WCM.
Q.2. State True or False [8 marks]
   a. Only the advanced technology is the weapon of world class product.
   b. The integrated it infrastructure is the prerequisite for effective MIS.
   c. TQM has no existence without top management commitment.
   d. Quality and productivity cannot increase in same direction.
   e. The profit comes first in 3ps priorities among product and people.
   f. Mountains contribute to water cycle by seizing moisture from air masses.
   g. Population growth has a positive effect on developing country like india.
   h. Enterprises Resource Planning has totally changed the concept of MRP.

Q.3. Expand the following [8 marks]
   a. SQC
   b. CAPP
   c. WCM
   d. MBO
   e. SMED
   f. P00-
   g. KPAs
   h. TCM

Q.4. Match the following: - [8 marks]

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 KAIZEN</td>
<td>a It is a ticket or card that is meant to communicate a demand</td>
</tr>
<tr>
<td></td>
<td>for materials or parts.</td>
</tr>
<tr>
<td>2 POKA-YOKE</td>
<td>b Focusing management and control in the right direction.</td>
</tr>
<tr>
<td>3 KANBAN</td>
<td>c The methodology that advocates use of activity based costing</td>
</tr>
<tr>
<td></td>
<td>focusing on customer requirements minimizing cost &amp; cycle time.</td>
</tr>
<tr>
<td>4 DEMING CYCLE</td>
<td>d A Company-wide system for employees improvement on continuous</td>
</tr>
<tr>
<td></td>
<td>basis.</td>
</tr>
<tr>
<td>5 Process Value</td>
<td>e Approach wherein checklist for each operation is provided so</td>
</tr>
<tr>
<td>Analysis</td>
<td>that human error is completely eliminated.</td>
</tr>
<tr>
<td>6 VALUE-ADDED</td>
<td>f Based on comprehension, commitment, competence, Communication,</td>
</tr>
<tr>
<td>ENGINEERING</td>
<td>correction and continuance.</td>
</tr>
<tr>
<td>7 CROSBY</td>
<td>g Plan Do Check and Act.</td>
</tr>
<tr>
<td>EDUCATION</td>
<td>h Purge anything that does not add value to the product or</td>
</tr>
<tr>
<td></td>
<td>service.</td>
</tr>
</tbody>
</table>
PART B  

48 marks

(Attempt any 3. Each question carries 16 marks)

Q.5.  
a) Explain in detail the world-class shop floor practices.
b) How supply chain management contributes to win global competition?

Q.6.  
a) Discuss Juan’s 10 steps of quality improvement.
b) Explain Deadly Diseases and Sins that affects the organization?

Q.7.  
a) Explain in detail how just in time inventory contribute to organization profit.
b) Explain in detail the flexible manufacturing system?

Q.8.  
a) How does over population exert pressure on natural resources? Explain in detail.
b) Describe Skilling industry in India?

Q.9. Write short notes on any four (4 x4 = 16 marks)
   a. Problems of manufacturing industry.
   b. Malcolm Baldrige National Quality Award.
   c. Material Requirement planning
   d. TQM
   e. Teamwork
   f. Mining

PART C  

20 marks

Q. 10. Case study - Compulsory

In the mid 1980's a new electronics company, Future-Tech, was founded with a unique high-tech product – a new type of computer. Because of its engineering expertise, Future-Tech had a virtual lock on its market. The demand for the products was enormous, and the investors were plentiful. Sales in the first three years were so good that backlogs of orders began to pile up midway through their second year. Even with steadily increasing manufacturing capacity (more factories, more shifts, more advanced technology), the demand grew so fast that delivery times began to slip. Originally Future-Tech promised to deliver within eight weeks. They intended to return to that standard, but management told investors, “Our computers are so good that some customers are willing to wait 14 weeks for them. We know it is a problem, and we are working to fix it, nonetheless they are still glad to get the machines, and they love them when they get them”.

The top management knew they had to add production capacity. After six months of study, they decided to borrow the money to build a new factory. To ensure growth, they pumped much of the incoming revenue back into sales and marketing. The company sold its products only through a direct
sales force, so they had to hire and train more sales people. During the company’s third year the sales force doubled.

Despite these efforts, sales started to slump at the end of the third year. At this point the new factory came on-line. Top management began to panic. The marketing VP was under fire to turn sales around. He held high-powered sales meetings with a single message: “Sell! Sell! Sell!”. He fired the low performers and increased sales incentives, added special discounts, and ran new advertising promotions.

Sales rose again, so did the order backlogs. Delivery times began to rise again – first to 10 weeks, then to 12 and eventually to 16. The debate over adding capacity started anew. This time management was more cautious. Eventually the approval for a new facility was granted, but no sooner had the papers been signed than a new sales crisis began. The same situation recurred over the next several years. High sales growth occurred in spurts, followed by periods of low or no growth. The company prospered modestly but never came close to fulfilling its original potential. Gradually, top managers began to fear competition and frantically introduced ill-conceived improvements in the product. They continued to push hard on marketing, but sales never returned to its original rate of growth. Eventually the company collapsed.

a) What factors led to the demise of Future-Tech?
b) What business strategy would have made Future-Tech successful?
c) What are your suggestions for the company to adopt world class practices?