PART A

(Compulsory. Each sub-question carries 1 mark)

Q. 1. Fill in the blank.
   i) ___________ - visual signal used to trigger action at work centers.
   ii) ___________ - an optical, machine readable representation of data.

   iii) A Japanese’s business philosophy of continuous improvement of working practices ___________.

   iv) ___________ is a function oriented, systematic approach to provide value in product.

   v) EOQ is the order quantity that minimizes ___________ and ___________.

   vi) PDCA model is also known as ___________. Cycle.

   vii) ___________ receiving goods as they are needed in production floor directly.

   viii) ___________ the system design such as the equipment operator to avoid mistakes, prevents incorrect parts being made or assembled.

Q. 2. State True or False

   a. Natural resources management does not affect the sustainable development of country.
   b. Mountains have no role in water cycle.
   c. Process value analysis is the first building block of total cost management.
   d. Cost of quality is the right approach to control rejections.
   e. Is MBO the comprehensive technique of management.
   f. Just in time is the best inventory management.
   g. Benchmarking is limited to particular product only.
   h. CAD/CAM are the process of increasing cost of manufacturing.

Q. 3. Expand the following

   a) APC
   b) EOQ
   c) AIS
   d) TPM
   e) FMS
   f) SMID
   g) MRP
   h) MBO
Q.4. Match A and B

<table>
<thead>
<tr>
<th>S.NO</th>
<th>A</th>
<th>B</th>
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<tbody>
<tr>
<td>1</td>
<td>The TOPP System.</td>
<td>a. The technique used to determine the quantity &amp; timing</td>
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<td>requirement of materials used in manufacturing.</td>
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<td>2</td>
<td>The AMBITE System</td>
<td>b. Use of statistical methods to monitor and control quality.</td>
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<td>3</td>
<td>Quality Management</td>
<td>c. The activity of providing evidence needed to establish</td>
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<td>confidence among all concerned that quality related</td>
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<td>activities are being performed effectively.</td>
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<td>4</td>
<td>Material Requirement Planning.</td>
<td>d. A carefully planned task designed to yield specific</td>
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<td>information about performance of a process under specified</td>
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<td>operating condition.</td>
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<td>5</td>
<td>Process Capability Studies.</td>
<td>e. The framework provide a means to translating the business</td>
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<td></td>
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<td>plan of an enterprise into set up of performance measures.</td>
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<td>6</td>
<td>The POP System.</td>
<td>f. It is multi criteria productivity measurement technique</td>
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<td>which lays performance against in objectivity output.</td>
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<td>7</td>
<td>Statistical Quality Control</td>
<td>g. A never ending spiral of activities that include market</td>
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<td>research development of product design, planning, customer</td>
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<td>service etc.</td>
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<td>8</td>
<td>Quality Assurance</td>
<td>h. It is a questionnaire that is used to determine how an</td>
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<td>enterprises is performing.</td>
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PART B  48 marks

(Attempt any 3. Each question carries 16 marks)

Q.5.  a) Describe how Indian industries are preparing to face the global competition?
      b) What are the Juran’s10 steps of quality improvement?

Q.6.  a) Discuss Maskell’s model of world class manufacturing?
      b) What problems are faced by Indian industries?

Q.7.  a) Describe the role of supply chain manager in conservation of natural resources?
      b) How the overpopulation affects the nature?

Q.8.  a) Describe the systems and tools of world class manufacturing?
      b) Briefly describe information management tools?
Q.9. Write short notes on any four
   a) Morale and teamwork.
   b) Cost of quality.
   c) Important principal for customer focus
   d) Vendor delivery performance.
   e) Barriers to use I T.
   f) Social responsibility issues

Q. 10. Case study - Compulsory
      To replace a legend is never easy; to replace a legend when the legacy needs a major overhaul is even more difficult. And that was the challenge facing Rajiv Bajaj in 1998 in the process of gradually taking over the leadership responsibilities at Bajaj Auto from his father, Rahul Bajaj.
      With its large sales turnover (₨ 39 bn in FY 99), wide product sweep and high profitability, cash rich Bajaj Auto dominated the Indian market for two and three wheeler vehicles. In 1998, Bajaj Auto was ranked India's fifth most valuable company. Internationally, it was the world's largest scooter producer and the fourth largest two wheeler manufacture, behind Japan's Honda, Yamaha and Suzuki. The company's builder Rahul Bajaj enjoyed the reputation of being one of India's most admired business leaders. Much more than a mere industrialist, he was a national celebrity, an outspoken iconoclast who was regularly in the news not only as a spokesman for Indian industry in general, but also for his often forward thinking and blunt views on a variety of social and economic issues that affected the country.
      Rahul Bajaj had inherited a young company in a protected market and overseen its growth over a period of forty years into a large and profitable company. In the mid 1980s, however, the environment changed as the government liberalized the two-wheeler industry, permitting global giants to set up shop in India. Bajaj Auto’s market share initially rose steadily, despite competition, to 49.3 percent in 1994 but gradually declined there after to about 40 percent by 1998. In response to this erosion of market share, the company was changing its focus on a standardized product to a wide range of models and variants designed to appeal to a broad cross section of the market. It had recognized its problems on product, both in terms of features and in terms of the quality expectations of an increasingly demanding customer. Both of these were being addressed and the company was in the process of recasting itself.
      Rahul Bajaj had always been at the helm of affairs at Bajaj Auto. Rahul had carried the torch for 35 yrs. Those who knew him well knew the company meant everything to him. But he felt it was now time to hand over the baton. Rahul was clear that his elder son was the person who should be groomed as his successor.
Rajiv had studied mechanical engineering and graduated at the top of his class. Besides, he had grown up in the Bajaj Auto Colony, having lived there ever since he was born. He was young, bright and hungry; everything that Rahul had been when he had stepped up to the plate in 1968. Rajiv came aboard as a general manager with responsibility for new product development and progressed quickly to become vice president- products (in charge of product and manufacturing engineering and marketing functions). Rahul remained the ‘Boss’ as Chairman and Managing director. But everyone was quite clear in 1998 that Rajiv was the de facto Chief Operating Officer. His management team consisted of experienced stalwarts who had typically been with the company for decades tempered with some of the new young faces chosen for their specialist skills. His Younger brother Sanjeev Bajaj was General Manager in Finance and Materials Area and had been an understudy to the CFO since he had returned with an MBA from Harvard.

When Rajiv took on the responsibility of super heading the company’s product and Marker thrust in 1996 at the age of 32, He found he had inherited a lumbering giant. His priorities thus included accessing new technologies, introducing new models, making a strong presence in the rapidly growing motor cycle market, creating a marketing culture, revamping manufacturing practices, focusing on quality, improving the supply chain and helping the new managers integrate into a conservative corporate culture. Been methodical by nature, Rajiv started working on all these issues one by one. He saw the major challenges facing the company as:

- **Share of customer’s mind**: This is linked to innovation, but not necessarily technical innovation. Customer maturity has changed dramatically in a very short period of time.
- **Product Differentiation**: We have to develop product development skills. Product differentiation has become more important, particularly where everyone has access to similar technology.
- **Customer Satisfaction**: Everything that was OK in the past is not OK today; we have to change everything to ensure customer satisfaction.
- **Customer Retention**: For motorcycles Hero Honda is the best brand, but it has only 52 percent customer retention.
- **Cost**: We have to manage the cost structure during the transition.

When asked about his ambitions for the company, Rajiv said, ‘My limited ambition is to complete the transition (to a new Bajaj Auto)’. In order to fulfill this ambition, however, some key issues and questions needed to be addressed.

Questions
1. What are the primary strengths and weaknesses of Bajaj Auto? Is the company working on the tight priorities?
2. How important is global leadership? Does Bajaj Auto’s mission statement need updating?
3. Would it be better to effect changes in one area at a time, or to do what Rahul and Rajiv have done by working on several areas simultaneously?
4. What is the future of Bajaj Auto?   ..........