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**UNIVERSITI SAINS MALAYSIA**

First Semester Examination  
Academic Session of 2006/2007

October/November 2006

**EBB 513/3 – Quality Management**

Time : 3 hours

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Please ensure that this paper consists of SEVEN printed pages before you proceed with the examination.

This paper contains EIGHT questions.

Answer FIVE questions. If a candidate answer more than five questions, only the first five answered will be examined and awarded marks.

Answer to any question must start on a new page.

All questions must be answered in English.

1. Strategic planning is the process whereby organizations develop a vision, mission, guiding principles, broad objectives, and specific strategies for achieving the broad objectives. Before even beginning the planning process, an organization should conduct a SWOT analysis. SWOT is the acronym for strengths, weaknesses, opportunities, and threats. A SWOT analysis answers the following questions: What are this organization's strength? What are this organization's weaknesses? What opportunities exist in this organization's business environment? What threats exist in this organization's business environment?

The SWOT analysis provides a body of knowledge that is needed to undertake strategic planning. The mission grows out of and supports the vision. The guiding principles, which represent the organization's value system, guide the organization's behaviour as it pursues its mission. The broad objectives grow out of the mission and translate it into measurable terms. Specific tactics tie directly to the broad objectives. Typically there will be two to five strategies for each objective, but is a rule of thumb, not a hard and fast rule.

Please identify your own organization business nature (it could be food, transport, retail, textile etc.).

Develop a proper Strategic Planning of your organization.

In your write up, you must include the following information:-

Strategic planning overview, Conducting the SWOT analysis, Developing the vision, Developing the mission, Developing the guiding principles, Developing broad strategic objectives, Developing specific tactics for accomplishing the broad strategic objectives and Executing the strategic plan.

(100 marks)

2. One of the greatest obstacles faced by organizations attempting to implement total quality is the cultural barrier. Many organizations do an excellent job of committing to total quality, involving employees in all aspects of planning and implementation, and providing the training needed to ensure that employees have the necessary skills, only to have their efforts fall flat. The culprit in many of these cases is organizational inertia. No effort has been made to overcome the comfort employees at all levels feel in doing things the way they have always been done. In other words, no effort has been made to change the organization's culture.

Describe in detail, if you are given the task to remove the various cultural obstacles in your organization in order to implement the total quality management concept. You need to explain the concept of organizational culture and how to go about changing it.

In your write up, you must include the following information:-

- Understanding what a quality culture is,
- Activating cultural change,
- Laying the groundwork for a quality culture,
- Learning what a quality culture looks like,
- Countering resistance to cultural change
- Establishing a quality culture.

(100 marks)

3. Benchmarking is become an increasingly popular tool among companies trying to become more competitive, striving for world-class performance. Benchmarking was brought to our awareness through Robert C. Camp's 1989 landmark book. The vast majority of the companies are actively engaged in benchmarking. Benchmarking is a part of the total quality process, and anyone involved in total quality should have a solid understanding of this subject.

Explain in detail about the benefits and pitfalls of benchmarking. Also explain how any enterprise could make rational decisions concerning benchmarking, including whether or not to do it, and how to go about it.

(100 marks)

4. Just-in-time (JIT) is the name given by the Toyota Production System developed by Taiichi Ohno. JIT is sometimes referred to as Lean Production Manufacturing. The term Focused Factory is sometimes applied to JIT production cells. If you encounter a production system called Demand Flow, or Demand Flow Technology, it is JIT with new label.

JIT manufacturing has become a management philosophy that seeks to eliminate all forms of waste in manufacturing processes and their support activities. This has to apply not only to the JIT manufacturer but also to its suppliers if the system is to eliminate all possible waste. Those companies that have required their suppliers to do their warehousing clearly have not gotten the point. The supplier should not produce the material until the JIT manufacturer needs it. In that mode there is no warehousing and therefore no wasted resources for buildings, maintenance, people to care for the material, spoilage, obsolescence, or other related problems.

Explain in detail about the rationale for JIT, relationship of JIT to TQM and Word-Class Manufacturing, benefits of JIT, Requirements of JIT and automation & JIT.

(100 marks)

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5. The origin of what is called statistical process control (SPC) goes back to 1931 and Dr. Walter Shewhart's book "The economic control of quality of manufactured product". Dr. Shewhart, a Bell Laboratories statistician, was the first to recognize that industrial processes themselves could yield data, which, through the use of statistical methods, could signal that the process was in control or was being affected by special causes (causes beyond the natural, predictable variation). The control charts used today are based on Shewhart's work. These control charts are the very heart of SPC.

Many organizations have adopted SPC as preferred way of controlling manufacturing processes. Much of this has come about as a result of the quality quest by first-tier companies, making it necessary to require that their second-tier suppliers practice SPC. We have seen this ripple down to at least the fourth tier. Nowhere is this more evident than in the auto industry. But even beyond the mandate by corporate customers, more and more small companies are using SPC as part of their quality competitiveness initiatives.

SPC users have backed away from the shotgun approach, where every process, no matter how trivial or foolproof, had to have SPC chart.

Discuss in detail how SPC could help your company which is now suffering with great deficit.

(100 marks)

6. Customer needs are not static. They change continually. A special product feature that is considered innovative today will be considered just routine tomorrow. Therefore, one of the most fundamental elements of total quality is continuous improvement. The concept applies to processes and the people who operate them. It also applies to products. However, a fundamental total quality philosophy is that the best way to improve a product is to continually improve the processes by which it is made.

Continuous improvement is fundamental to success in the global marketplace. Companies that are just maintaining the status quo in such key areas as quality, new product development, the adoption of new technologies, and process performance are like a runner who is standing still in a race. Competing in the global marketplace is like competing in the Olympics. Last year's records are sure to be broken this year. Athletes who don't improve continually are not likely to remain long in the winner's circle. The same is true of companies that must compete globally.

Discuss in detail about the importance to make continual workplace improvement.

(100 marks)

7. One of the tenets of total quality is management by facts. This is not in harmony with the ability to make snap decisions and come up with quick solutions to problems in the absence of input beyond intuition, gut feel, and experience. Management by facts requires that each decision, each solution to a problem, is based on relevant data and appropriate analysis. Once we get beyond the very small business, most decision points and problems will have many impacting factors, and the problems will remain obscure until valid data are studied and analysed. Collecting and analyzing data can be very difficult.

Discuss in detail about how the abovementioned task can be made easy enough for everyone. Explain with example(s), how their use will assure better decision making, and better solutions to problems, and even improvement of productivity and products and services

(100 marks)

8. If you ask the typical manager to describe his or her biggest problem in today's workplace, the response will probably include one or more of the following:
- We spend all our time in meetings trying to resolve problems
  - We are constantly fighting problems, and that doesn't leave us to do our real jobs, such as planning, leading, and so forth
  - As soon as we put out one fire, another pops up
  - We've got more problems than we can handle, and it bogs us down

Based on the above statements or any other similar statements, problem solving and decision making are fundamental to total quality. On the one hand, good decisions will decrease the number of problems that occur. On the other hand, the workplace will never be completely problem-free. Discuss in detail about how to solve problems effectively, positively, and in ways that don't create additional problems. Also discuss about how you can become a better decision maker. Include also in your discussion about learning to make decisions and handle problems in ways that promote quality.

(100 marks)