X 1016

M.B.A. DEGREE EXAMINATION – MARCH 2008.

SECOND TRIMESTER

MBA 025 — TOTAL QUALITY MANAGEMENT

Time : Three hours Maximum : 100 marks

PART A — (20 × 1 = 20 marks)

Answer ALL the questions.

1. ———— refers to any action directed towards providing consumers with products of appropriate quality.

2. Manufacturing based definitions focus on producers of goods and services and identifies quality as ————

(a) Conformance to requirements (b) Perceived quality

(c) Expected quality (d) Competitive edge

3. A user based approach defines quality in terms of costs and price.

(a) True (b) False

4. Who developed the cost of quality?

(a) Deming (b) Juran

(c) Crossby (d) Taughi

5. ———— provides assurance to wide variety of customers about an organization's quality assurance methods and quality management practices.

6. DMADV is used for

(a) To Improve an Existing Business Process

(b) To create new product or process designs

(c) To Improve customer satisfaction

(d) To Enhance the performance of the product

7. In which level software process for both management and engineer activities is documented, standardized and integrated into an organizat wide software process.

(a) CMMI level 2 (b) CMMI level 3

(c) CMMI level 4 (d) CMMI level 5

8. Which is not a commonly used quality management tool?

(a) Fishbone Diagram (b) Frequency chart

(c) Pareto chart (d) Control chart

9. Tree Diagram is used to obtain best ———— for an objective

(a) Quality (b) Practices

(c) Policy (d) Strategies

10. Managers committed to successful implementation of total qu management must have both an ———— Model and an ———— Model.

11. ———— is a systematic method by which organisations can me themselves against the best industry practices.

12. In which step, QFD translates the columns of the technical fea deployment matrix into critical process and product parameters.

(a) QFD first step process (b) QFD second step process

(c) QFD third step process (d) QFD fourth step process

13. ———— means preparing, correcting or placing systematically the w items.

(a) SEIRI (b) SEITON

(c) SEISO (d) SEIKETSU

14. FMEA is a ———— tool

(a) Proactive (b) Reactive

(c) Failure mode (d) Dynamic

15. Which tool is used for formulation of action plans?

(a) Pareto (b) Histogram

(c) Arrow Diagram (d) Scatter Diagram

16. Failure effect analysis is analysing the operation of the product or process to see what are the most likely modes where failure would occur.

(a) True (b) False

17. The cost associated with defects or failures being identified before the shipment of the products.

(a) Internal failure cost (b) External failure cost

(c) Intangible cost (d) None

18. How many numbers of stages in Benchmarking

(a) 5 (b) 4

(c) 6 (d) 3

19. A tree diagram map the _____ and _____ necessary to complete the specific project or reach a specific goal.

20. PDCA cycle is also called as

(a) Quality circle (b) Quality control

(c) Ishikawa cycle (d) None of the above

PART B — (10 × 2 = 20 marks)

Answer any TEN questions.

21. 'Quality is a new competitive weapon' Justify the statement. General question

22. Discuss the importance of quality for a manufacturing organisation. General question

23. List out the Juran's quality triology process. – 2

24. Explain the importance of CMMI for software organisation. – 5

25. Explain the concepts of 'Six Sigma' quality. – 3

26. List out seven QC tools used in an organisation. – 4

27. What are the various steps imparting TQM in B-School? General question

28. What is Force Field analysis?

29. What is zero quality control program? – 2

30. List out any four benefits of 5S Program in an organisation. – 2

31. Explain Taguchi' s "Quality loss function". – 2

32. What is quality auditing? List out the various types of Quality audits. – 5

PART C — (5 × 10 = 50 marks)

Answer any FIVE questions.

33. List and explain the major types of quality costs with example. How quality costs are measured and collected in an organisation.

34. Explain Crosby's 14 steps for quality improvement.

35. What is House of Quality in QFD approach? Outline the process of building the House of Quality for manufacturing organisation.

36. What is FMEA? Discuss the various steps involved in FMEA process.

37. Discuss separately the various dimensions of Product and Service Quality in an organisation.

38. Draw the structure of ISO 9000 Quality standard. Explain the key elements of ISO 9000 certification process.

39. Explain the various stages of TQM implementation in an organisation.

40. Write short notes on

    (a) Quality circle.

    (b) Total productive maintenance.

    (c) Poka —Yoke technique.

PART D — (1 ×10 = 10 marks)

Compulsory Question

41. Case Study

SIDDHI PHARMA

Siddhi Pharma is a leading manufacturer of various pharmaceutical formulations such as tablets, capsules, syrups etc. Besides the generic formulations, a number of products in their brand name are also produced. Although a young company, Siddhi Pharma has made significant achievements in the pharmaceuticals industry. This is result of their focus on quality.

Siddhi Pharma was established in the year 1990 to manufacture quality pharmaceutical formulations. The Directors, who are Pharmacy graduates, back the organisation. With the knowledge base and the firm's dedicated efforts, the firm's product range has been expanded and the quality has been improved upon. The objective is to make the products market friendly in India. The major markets of the siddhi pharma in India are the supplies to DGS&D. The firm is also supplying to the marketers who are further controlling the distribution system. Due to increased competition the company is planning to go export market.

Thus, Siddhi Pharma is today a growing firm. The company's manufacturing facility is strategically located in the backward area of UP. All the major inspecting authorities such as the Drugs Control Department of the Director General of Health Services have approved their manufacturing facilities. For quality control and development of products the company has their own in-house and well equipped laboratory, duly approved by the aforesaid inspecting authorities. Besides, the well equipped testing laboratory, Siddhi has the following sections.

- Tablet section for the manufacturing of uncoated tablets, sugar coated tablets, film coated tablets.
- Liquid syrup section for manufacturing of different syrups, suspensions and solutions etc.

As far as quality related costs are concerned at Siddhi Pharma, the awareness among the Director, related to this topic is very less. The company doesn't have any organised structure to deal with the problem. The company doesn't work upon it, but yes, they come to know about the cost of poor quality or cost of non-quality when the whole of the batch of medicines or syrups is rejected in any stage of the supply chain and the debit note is raised in favour of them.

Quality assurance has long been a tradition with Siddhi Pharma. Quality is the priority in all activities carried out in the company. This can very well be understood while looking at their operations deeply. The company has a well equipped testing laboratory comprising of machines like HPIC testing machine, UV machine for raw material, DT machine (disintegration time), PH meter to check acid content.

Thus while studying their operations and by having a closer look at the departments and activities closely, it is clear that although problems of costs related quality are not dealt in an organised manner but the same thing is taken care off in each of their operations. For example if we take each of these costs separately we can analyse to what extent they are dealing with this problem.

- Prevention costs: This cost can very well be understood by looking at the internal environment of the company. The company has a structured way to provide a dust free environment, which is ultimately reflected in their products when they clear every stage of inspection. The company provides quality training to its staff members in order to deal with the problem and to prevent costs of poor quality. The company has a proper maintenance department to ensure smooth working of machines.

- Appraisal costs: This cost can be looked upon in their well-equipped testing laboratory. Each of the tests performed in the lab are to avert any kind of cost, which can arise in future. For e.g. UV machine in the Lab is to check raw material and the absence of this machine can set up huge costs for them when the whole batch of tablets is found defective in further tests. Thus we can see that the company has invested in the absence of this machine can set up huge costs for them when the whole batch of tablets is found defective in further tests. Thus we can see that the company will have to bear in the absence of the well quipped Laboratory.

- Internal Failure: The costs related to internal failure are very high if the batch is found defective. For e.g. if medicine is found defective in the later stages but inside the factory the costs could be very high because then the whole lot has to be scrapped. But if defect is found in the initial stage the costs attached to it could be less. So the costs attached to internal failure completely depend upon which stage the defect is detected.

- External Failure: External failure means a lot to the company because this means loss of image and goodwill. Company's representative continuously visits the medical practitioners and if any patient comes with the complaint then this completely destroys the company's image in the market and the company could have to invest a lot again to build goodwill. External failures could also be looked into when the whole of the batch is rejected at the customers place and the company have to invest a lot to come out of the problem.