MID-WEST UNIVERSITY
SCHOOL OF MANAGEMENT (MUSOM)
(An Autonomous Institution)
MUSOM EXAMINATIONS SECTION
FINAL EXAMINATION-2024 (2081)
MASTER OF BUSINESS ADMINISTRATION (MBA)
SEMESTER – III (Old Course)

Subject: Total Quality Management **Course Code: MGT 533**
Full Marks: 100 **Time: 4 Hrs.**

Exam Roll No.: .....

Section A: Multiple Choice Questions (1×20 = 20 Marks) **Time: 20 Minutes**

Tick (✓) the correct answers

1. In terms of quality costs, which of the following factors is associated with internal failure costs?
   a. Warranties and environmental impact
   b. In-process inspection
   c. Rework and downtime
   d. Error proofing
2. Which of the following statements do you disagree with?
   a. The customer's view of quality is central to TQM.
   b. In TQM, people discuss and solve problems in teams.
   c. The essence of TQM is detecting problems rather than preventing them.
   d. TQM focuses on long-term orientation for competitive advantage.
3. In the Kano model, the lowest line on the right side represents _____.
   a. unexpected and delighting features due to innovation
   b. unstated and unspoken requirements
   c. explicitly stated requirements
   d. None of the above
4. Sensory impression of a product is an element of quality best described by_____.
   a. Aesthetics
   b. Performance
   c. Conformance
   d. Durability
5. Why is cultural shift difficult in an organization?
   a. People in organization, by instinct, assume opposite role.
   b. There is state of fear in connection with new state of change.
   c. There is always active internal politics in organization.
   d. By nature, management opposes organizational change.
6. Which of the following indicate(s) process improvement?
   a. Reduce resources
   b. Exceed expectation of downstream customers
   c. Make the process safer
   d. All of the above
7. All of the following steps are required for quality planning except _____.
   a. Determine who the customers are
   b. Identify their needs
   c. Deploy the plans to operational levels
   d. Access the actual quality performance
8. Which of the following statements seems odd in the context of Deming philosophy?
   a. Stop awarding business based on price alone.
   b. Introduce management by objectives.
   c. Drive out fear, create trust and climate of innovation.
   d. Don't enforce numerical quotas for workforce.

9. By the term zero defect, Crosby asserts that _____.
   a. System must ensure 100 percent quality i.e. perfection
   b. it is the ability of a firm to satisfy customer
   c. it occurs when a firm produces exact customer requirements
   d. every product must be within statistical process control
10. Identify the correct steps of Six Sigma?
   a. Define – measure – analyze – improve – control
   b. Define – analyze – measure - improve – control
   c. Plan – control – improve
   d. Plan – do – check – act
11. In six sigma, one of the following positions is the highest-level officials having understanding of Six Sigma and committed to its success. Who is he or she?
   a. Master black belt
   b. Green belt
   c. Black belts
   d. Sponsors
12. Arrange the following steps for benchmarking in correct order:
   i. Plan ii. Decide what to benchmark
   iii. Study others iv. Understand the correct performance
   v. use of findings vi. Learn from data
   a. 4,2,1,3,6,5
   b. 1,2,3,4,5,6
   c. 2,1,4,3,6,5
   d. 2,1,4,6,3,5
13. Benchmarking is accused of having the following weakness?
   a. We copy others.
   b. It is expensive process.
   c. It exists in theory not in practice.
   d. It requires commitment of top management.
14. The concept of 'vital few, trivial many' is described by _____.
   a. matrix diagram
   b. check list
   c. flow chart
   d. Pareto principle
15. How do you interpret MURA in quality management?
   a. Slow speed
   b. Overburdening
   c. The waste due to unevenness in the schedule and demand on people
   d. Underproduction
16. Which tool mentioned below clearly shows the relationship of the two variables and their strength of association?
   a. Interrelationship diagram
   b. Matrix diagram
   c. Affinity diagram
   d. Forced field analysis
17. Who is not associated with quality circle?
   a. Facilitator
   b. Supervisor
   c. Coordinator
   d. Circle leader
18. Where do you start from to find dissatisfiers?
   a. Market research
   b. Benchmarking
   c. Brainstorming
   d. Customer complaints
19. Find out the condition of out of control in SQC?
   a. One or more points are out of limits.
   b. Seven consecutive points are above UCL.
   c. Six consecutive points are in increasing pattern.
   d. All of the above.
20. Which tool is suitable for organizing thoughts about a completely new project?
   a. Activity network diagram
   b. Forced field analysis
   c. Matrix diagram
   d. Affinity diagram

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You are required to answer in your own words as far as applicable. The figures in the margin indicate full marks.

SECTION B: SHORT ANSWER QUESTIONS (5×6 = 30 MARKS)

Answer any five questions:

1. TQM adheres to the customer-driven quality concept. Justify this statement by explaining the fundamental philosophy behind TQM practices. [6]
2. How do you understand a problem in quality management? Discuss the key concepts of Kaizen and emphasize its areas of focus. [2+4]
3. Employee involvement is a key component of TQM. What measures can a firm take to ensure high levels of employee involvement? Write with examples. [6]
4. How does the Juran Trilogy—Quality Planning, Quality Control, and Quality Improvement—contribute to an organization's overall quality management strategy? [6]
5. With an example from a business organization, describe how we can apply cause and effect diagram. [6]
6. A small home-based firm manufactures T-shirts for a niche market. Before delivery, it checks where these is any defect in quality in terms certain parameters. From the following data, draw the control chart for fraction defectives and interpret the result. (All samples are 100 in size.) [4+2]

Sample No.	No. of Defective CDs = x	Proportion Defective = x/sample size	Sample No.	No. of Defective CDs = x	Proportion Defective = x/sample size
1	4	.04	11	6	.06
2	3	.03	12	5	.05
3	3	.03	13	4	.04
4	5	.05	14	5	.05
5	6	.06	15	4	.04
6	5	.05	16	7	.07
7	2	.02	17	6	.06
8	3	.03	18	8	.08
9	5	.05	19	6	.06
10	6	.06	20	8	.08

7. Write short notes on any two of the following
   a. Quality of service vs physical goods
   b. Renovation vs reengineering
   c. ISO certification and its benefits

SECTION C: LONG ANSWER QUESTIONS (2×15 = 30 MARKS)

Answer any two questions:

8. Identify and mention the several potential sources of poor quality in education service business like school? List out some leadership traits indispensable for quality management practices in an organization and provide your arguments on why they are important. [5+10]

9. Deming's philosophy, though covers landmark principles in design of quality management system, suffers from a number of pitfalls and criticism in the context of modern management practices. In this background, write a critical essay on Deming's contribution to total quality management. [15]

10. The following are the observations of ten samples with sample size of 4 each drawn from the various lots of the production process of small metal discs.

Sample Number	Weight of metal discs in grams			
	Observations			
	1	2	3	4
1	211	223	217	215
2	215	218	215	214
3	228	224	217	222
4	214	218	221	212
5	220	225	221	223
6	216	222	216	213
7	223	233	235	230
8	214	218	224	221
9	205	214	230	211
10	212	218	224	221

Values of A_2, D_3 and D_4 are 0.729, 0 and 2.282 respectively.

a. Calculate the necessary parameters and create mean and range charts. [5+5]

b. Interpret the result in both cases. [1+1]

c. Provide additional cases in which the process is said out of control even when the points within the control lines. [3]

SECTION D: CASE STUDY (20 MARKS)

11. Read a case given below and answer the following questions.

Kaizen at a National Bank

A major national bank uses a five-day Kaizen approach to attack process speed and efficiency problems. A cross-functional team is selected for the event and participants are pulled off their jobs for several days at a time. The project is well-defined in the beginning because there is no time to redefine the purpose or scope

A Typical Kaizen Schedule

A sample agenda that the bank uses for the five days of Kaizen implementation is given below:

Day 1 is spent training participants on topics that cover basic concepts related to the goals of the project. This could include teaching relevant lean or Six Sigma concepts and reviewing relevant data.

Day 2 is spent looking at the process with new eyes. Participants do a "unit walk," a tour of operations affected by the problem or situation being studied where they simulate being a work item flowing through the process. The group visits each portion of the process because there is cross-functional representation, they have the opportunity to hear insights from someone who works in that area. The group creates a value stream map (a picture of the "as–is" situation) that captures the basic process steps such as cycle times, number of steps, rework loops, queuing delays, work in progress (WIP) and transportation time.

Day 3 is designed around clarifying problems and brainstorming solutions. The team reorganizes the value stream. It creates a "should" map that depicts how the process would need to function to solve the identified problems. The outcome includes developing action plans for implementing solutions or trial simulations for the next day.

Day 4 is used to test the solutions. A simulation exercise is carried out if possible. The group quantifies the improvement if the proposed changes are implemented using estimates of reductions in travel time, queuing time, work in process, number of steps, number of forms, etc.

On day 5, the participants prepare and present their findings to the sponsor in a formal report-out session.

Making it Work

The bank makes this model work by having its internal consultants partner with the manager/ sponsor to select problems that are extremely high priority, not only for that work area but also for the business as whole. This makes it much easier to justify taking people off their regular jobs. Also, the goal of the event is a little more modest than a traditional Kaizen. The teams are expected only to get through the simulation and piloting of solution ideas. The internal consultant will then assist the team with full-scale implementation.

The results achieved as a result of Kaizen implementation are

I. Cycle-time improvements have ranged from 30 per cent faster to nearly 95 per cent faster. One administrative process went from 20 minutes to 12 minutes, and a complaint resolution process dropped from 30 days to eight days.

II. Fiscal indicators have all been positive. One high-level project has allowed the bank to start charging for a service that previously was offered free to customers. New revenues are expected to total between USD 6 million to USD 9 million per year. Other projects have led to cost reductions or loss avoidance in terms of hundreds of thousands of dollars.

Conclusion

Kaizen events are a powerful improvement tool because people are isolated from their day to-day responsibilities and allowed to concentrate all their creativity and time on problem solving and improvement. Companies that use Kaizens have found that they generate energy among those who work in the area being improved and produce immediate gains in productivity and quality.

Questions:

a. What are the characteristics of the bank's Kaizen event? [5]

b. Discuss the Kaizen model followed by the bank. [5]

c. What are the results achieved by the bank by this Kaizen event? [5]

d. Why do you consider the Kaizen event to be powerful? [5]