

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 60751

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2026.

Fifth/Sixth/Seventh/Ninth Semester

Civil Engineering

GE8077 — TOTAL QUALITY MANAGEMENT

(Common to Aeronautical Engineering/Aerospace Engineering/
Agriculture Engineering/Automobile Engineering/Biomedical Engineering/
Computer Science and Engineering/
Computer and Communication Engineering/Electrical and Electronics
Engineering/Electronics and Communication Engineering/
Electronics and Instrumentation Engineering/Electronics and Telecommunication
Engineering/Environmental Engineering/Geoinformation Engineering/
Industrial Engineering/Industrial Engineering and Management/Instrumentation
and Control Engineering/Manufacturing Engineering/Marine Engineering/
Material Science and Engineering/ Mechanical Engineering/
Mechanical Engineering (Sandwich)/Mechanical and Automation
Engineering/Mechatronics Engineering/Medical Electronics/
Petrochemical Engineering/Production Engineering/Robotics and Automation/
Safety and Fire Engineering/Bio Technology/Biotechnology and Biochemical
Engineering/ Chemical Engineering/Fashion Technology/Food Technology/
Handloom and Textile Technology/Information Technology/Petrochemical
Technology/Petroleum Engineering/Pharmaceutical Technology/Plastic Technology/
Polymer Technology/Textile Chemistry/Textile Technology)

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the elements of TQM?
2. What are the four types of quality costs?
3. Indicate the role of employee involvement in quality management.
4. State the need for quality council.

5. Write the key concepts of six sigma methodology.
6. List the traditional tools of quality.
7. Define "Taguchi's Quality Loss function".
8. What is total productive maintenance?
9. State the objectives of TS 16949 quality system.
10. Write down the benefits of Environment Management System (EMS).

PART B — (5 × 13 = 65 marks)

11. (a) (i) Compare the dimensions of product quality and service quality with example. (7)
- (ii) Examine the pillars and potential benefits of TQM. (6)

Or

- (b) Explain the 14 steps involved in Crosby's total quality approach.

12. (a) How would you describe the characteristics of quality leader and leadership styles for effective leaders in detail?

Or

- (b) (i) List the five levels, of Maslow's hierarchy of needs. Describe each level and how it motivates employee. (6)
- (ii) What is 5S? How it will be useful in continuous improvement? (7)

13. (a) Explain the procedural steps in conducting a Failure Mode Effect analysis with a suitable case study. Brief about the four stages of FMEA?

Or

- (b) (i) How would you show your understanding of Bench marking process? (6)
- (ii) Explain the various reasons for bench marking. (7)

14. (a) Draw the house of quality for a product of your choice and describe the Quality Function Deployment (QFD) methodology.

Or

- (b) What are the Pillars of Total Productive Maintenance (TPM)? Discuss them in detail. How are they implemented?

15. (a) (i) Illustrate the steps to be followed in implementing quality system ISO 9001:2000? (7)
(ii) What is ISO 9000 : 2000? State its scope and applications. (6)

Or

- (b) Illustrate the various aspects of ISO 14000 environment management system. Brief the various principles of ISO 14000 series.

PART C — (1 × 15 = 15 marks)

16. (a) A popular restaurant having branches all over Tamilnadu, wants to retain their quality and customers and to resolve customer complaints as soon as possible
(i) Discuss the essential steps of quality planning in a service industry. (7)
(ii) How would you summarize customer complaints customer satisfaction & retention in details? (8)

Or

- (b) OLB an electric scooter manufacturing company producing different types of scooters. In recent years company gets sudden increases in complaints about in terms of poor quality Battery issues manufacturing defects inconsistent performance Develop a cause and effect diagram (Ishikawa diagram) to find the root cause of the problem.
-

10. The first part of the paper is devoted to a review of the literature on the topic. The second part is devoted to a review of the literature on the topic. The third part is devoted to a review of the literature on the topic.

11. The first part of the paper is devoted to a review of the literature on the topic. The second part is devoted to a review of the literature on the topic. The third part is devoted to a review of the literature on the topic.

REFERENCES

12. The first part of the paper is devoted to a review of the literature on the topic. The second part is devoted to a review of the literature on the topic. The third part is devoted to a review of the literature on the topic.

13. The first part of the paper is devoted to a review of the literature on the topic. The second part is devoted to a review of the literature on the topic. The third part is devoted to a review of the literature on the topic.

14. The first part of the paper is devoted to a review of the literature on the topic. The second part is devoted to a review of the literature on the topic. The third part is devoted to a review of the literature on the topic.

15. The first part of the paper is devoted to a review of the literature on the topic. The second part is devoted to a review of the literature on the topic. The third part is devoted to a review of the literature on the topic.