

Reg. No. : 

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**Question Paper Code : 71949**

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2017.

Sixth/Seventh/Eighth Semester

Mechanical Engineering

GE 6757 – TOTAL QUALITY MANAGEMENT

(Common to Aeronautical Engineering, Automobile Engineering, Biomedical Engineering, Civil Engineering, Computer Science and Engineering, Electrical and Electronics Engineering, Electronics and Communication Engineering, Electronics and Instrumentation Engineering, Environmental Engineering, Industrial Engineering, Industrial Engineering and Management, Instrumentation and Control Engineering, Manufacturing Engineering, Materials Science and Engineering, Mechanical Engineering, Mechanical and Automation Engineering, Mechatronics Engineering, Medical Electronics Engineering, Petrochemical Engineering, Production Engineering, Chemical Engineering, Fashion Technology, Food Technology, Information Technology, Petrochemical Technology, Petroleum Engineering, Pharmaceutical Technology, Plastic Technology, Polymer Technology)

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the four absolutes of quality defined by Crosby?
2. Define quality policy statements?
3. What is Kaizen philosophy?
4. Why team and team work are required in TQM?
5. Mention the use of Stratification chart in TQM.
6. State the primary objectives of six sigma.
7. Write the key concepts of six sigma.
8. List out the benefits of total productive maintenance.

9. What are the important requirements of QS9000?
10. Mention the different types of quality audits.

PART B — (5 × 16 = 80 marks)

11. (a) Elaborate the fourteen steps involved in Crosby's total quality approach.

Or

- (b) (i) Describe the various dimensions of quality with respect to the following: quality in products and quality in services. (8)
- (ii) Explain the common customer feedback collection tools. (8)
12. (a) (i) Enumerate the duties of quality council. (8)
- (ii) Explain McGregor's theory X and theory Y. (8)

Or

- (b) What do you understand by the term quality statements? Elaborate them with examples.
13. (a) Why bench marking is required in an organization? Illustrate the different types of bench marking process. Write down the general procedure for bench marking process.

Or

- (b) List out the different situations where FMEA is to be carried out. Give detailed FMEA procedure.
14. (a) Write down the objectives of implementing total productive maintenance. Discuss about the core elements of TPM program. Compare TQM and TPM.

Or

- (b) (i) List out the benefits of performance measures. (6)
- (ii) Briefly explain the DMAIC procedure (10)
15. (a) Enumerate the various aspects of ISO 14000 environmental management system. Brief the various principles of ISO 14000 series.

Or

- (b) Illustrate the detailed procedure for quality auditing. Brief the attributes of a good auditor.



Reg. No. :

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**Question Paper Code : 41188**

26/04/18  
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B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

Sixth/Seventh/Eighth Semester

Mechanical Engineering

GE 6757 – TOTAL QUALITY MANAGEMENT

(Common to : Aeronautical Engineering/Automobile Engineering/  
Biomedical Engineering/Civil Engineering/Computer Science and Engineering/  
Electrical and Electronics Engineering/Electronics and Communication  
Engineering/Electronics and Instrumentation Engineering/Environmental  
Engineering/Industrial Engineering/Industrial Engineering and Management/  
Instrumentation and Control Engineering/Manufacturing Engineering/Materials  
Science and Engineering/Mechanical and Automation Engineering/Mechatronics  
Engineering/Medical Electronics/Petrochemical Engineering/Production  
Engineering/Chemical Engineering/Fashion Technology/Food Technology/  
Information Technology/Petrochemical Technology/Petroleum Engineering/  
Pharmaceutical Technology/Plastic Technology/Polymer Technology)

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

PART – A

(10×2=20 Marks)

1. Differentiate 'Quality of Conformance' and 'Quality of Performance'.
2. Name any 4 methods of receiving customer complaints.
3. List the common barriers to team progress.
4. What are the objectives of supplier rating ?
5. What is the purpose of constructing PDPC ?
6. Define risk priority number.
7. Distinguish between variables and attributes.





8. What is house of quality ?
9. Define quality auditing.
10. What is the need for documentation ?

**PART – B**

**(5×13=65 Marks)**

11. a) i) Describe Joseph M. Juran's contribution towards TQM. (8)  
 ii) What are quality statements ? Give example. (5)  
 (OR)
- b) What is quality cost ? Explain the different categories and elements of COQ. How it is useful as a performance measure ? (13)
12. a) What is PDCA (PDSA) cycle ? Illustrate PDSA cycle as an effective tool for continuous improvement with an example. (13)  
 (OR)
- b) i) List the five levels in 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 three main types of bench marking with example. Also, discuss the various steps involved in bench marking process. (13)  
 (OR)
- b) i) Construct a flow diagram for the manufacture of a product or providing a services. (7)  
 ii) Develop a tree diagram for the customer requirements for a product or service. (6)
14. a) Construct a p-chart with the following data, if the size of the sample was 300 and number of samples inspected was 20. Determine the control limits. What do you infer about the process ? (13)  
 3, 6, 4, 6, 20, 2, 6, 7, 3, 0, 6, 9, 5, 6, 7, 4, 5, 7, 5 and 0.  
 (OR)
- b) i) What is total productive maintenance ? Discuss the objectives, principle and steps in introduction of TPM in an organisation. (9)  
 ii) Compute the average loss in thousands for a process that produces steel shafts. The target valve is 6.40 mm and the Taguchic coefficient is 9500. Eight samples give 6.36, 6.40, 6.38, 6.39, 6.43, 6.39, 6.46 and 6.42. (4)

15. a) i) What are the requirements and benefits of TQM implementation in manufacturing sector ? (7)  
 ii) Describe the four tiers of quality documentation. (6)

(OR)

- b) Explain in detail the concept and requirements of IS 14000. (13)

**PART – C**

**(1×15=15 Marks)**

16. a) Explain the procedural steps in conducting a Failure Mode Effect Analysis with a suitable case study. (15)  
 (OR)
- b) Discuss the procedural steps in constructing a house of quality with a suitable example. (15)

Reg. No. :



Question Paper Code : 53130

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Sixth/Seventh/Eighth Semester

Civil Engineering

GE 6757 — TOTAL QUALITY MANAGEMENT

(Common to : B.E. Aeronautical Engineering/Automobile Engineering/  
Biomedical Engineering/Civil Engineering/Computer Science and  
Engineering/Electrical and Electronics Engineering/Electronics and communication  
Engineering/Electronics and Instrumentation Engineering/  
Environmental Engineering/Industrial Engineering / Industrial Engineering and  
Management/Instrumentation and Control Engineering/Manufacturing  
Engineering/Materials Science and Engineering/Mechanical  
Engineering/Mechanical and Automation Engineering/  
Mechatronics Engineering/Medical Electronics/Petrochemical  
Engineering/Production Engineering/Chemical Engineering/  
Fashion Technology/Food Technology/Information Technology/  
Petrochemical Technology/Petroleum Engineering/Pharmaceutical Technology/  
Plastic Technology/B.Tech. Polymer Technology)

(Regulation 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Quality as per Crosby.
2. List down the contributions of Juran's.
3. What is Employee Empowerment?
4. Name a few barriers of Team Performing.
5. Give the seven tools of quality.
6. What is Six Sigma Problem Solving Method?
7. Define "Taguchi's Quality Loss Function" (TQLF).
8. What are the criteria to evaluate the performance measures?

9. What are the four elements for the planning of ISO 14001?
10. Define Quality Audits.

PART B — (5 × 13 = 65 marks)

11. (a) Explain the basic concepts of TQM.
- Or
- (b) What are the barriers to “TQM Implementation”?
12. (a) Explain the step by step procedure in Strategic Quality Planning.
- Or
- (b) (i) Briefly explain about Recognition and Reward System along with its effects.
- (ii) Discuss the function of Quality Council.
13. (a) List out the seven new management tools. Explain them briefly.
- Or
- (b) Explain in detail about typical benchmarking methodology.
14. (a) Explain about QFD Process.
- Or
- (b) Describe the concepts of TPM. List out the steps for TPM Development.
15. (a) Discuss the importance of ISO 9000.
- Or
- (b) Explain about the Obstacles to Implementation of TQM.

PART C — (1 × 15 = 15 marks)

16. (a) Explain about Deming's Philosophy.
- Or
- (b) Quality management is only applicable to firms in the manufacturing sector and not in the public or service industry. Give argument for or against this assertion and discuss the dimension of service Quality.

Reg. No.

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**Question Paper Code : 80508**

02/11/16

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Seventh Semester

Mechanical Engineering

GE 6757 — TOTAL QUALITY MANAGEMENT

(Common to Sixth Semester Industrial Engineering and Management, Mechatronics Engineering, Information Technology, Pharmaceutical Technology, Computer Science and Engineering and Also Common to Seventh Semester Aeronautical Engineering, Biomedical Engineering, Industrial Engineering, Manufacturing Engineering, Materials Science and Engineering, Mechanical and Automation Engineering, Medical Electronics Fashion Technology, Petrochemical Engineering, Production Engineering, Polymer Technology)

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the different ways to create customer oriented culture in an industry?
2. Write down the categories of quality cost.
3. Write the requirements of reliable supplier rating.
4. How employee involvement can be improved in an organization?
5. What are the different ways of bench marking?
6. How cause and effect diagram used in TQM?
7. Write the specific use of np-chart.
8. Define process capability index?
9. Name any two generic ISO standards. Why it is called generic standards?
10. What are the core elements of QMS?



PART B — (5 × 16 = 80 marks)

11. (a) (i) Write down the underlying principles of TQM. (8)  
(ii) Describe the various dimensions of quality. (8)

Or

- (b) (i) Explain the role of senior level management in TQM implementation. (10)  
(ii) Illustrate the various steps involved in customer satisfaction process. (6)
12. (a) (i) Give a detailed note on PDCA cycle. (8)  
(ii) Portray the characteristics of empowered employees. (8)

Or

- (b) (i) What is supplier partnering? Indicate its important benefits. (8)  
(ii) Explain the step by step procedure in strategic quality planning. (8)
13. (a) (i) List out the seven new management tools. Explain them briefly. (8)  
(ii) Discuss about the various stages in failure mode and effect analysis. (8)

Or

- (b) (i) Compare six sigma and TQM concepts. (10)  
(ii) What benefits have been achieved by the organizations that have successfully completed their benchmarking programs? Name any four selected best practiced companies. (6)
14. (a) (i) Describe a basic structure of house of quality, a primary planning tool used in quality function deployment (QFD). (6)  
(ii) Explain the differences between x-bar and R-charts. How can they be used together and why would it be important to use them together? (10)

Or

- (b) (i) Describe a quality control chart and how it can be used. What are the upper and lower control limits? What does it mean if an observation falls outside the control limits? (10)  
(ii) Illustrate the key characteristics of six sigma. (6)
15. (a) Explain about the various processes used in ISO 9001 quality management system.

Or

- (b) With the help flow chart explain the various divisions of ISO 14000 standard.





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PART – B

(5×16=80 Marks)

11. a) i) Why to measure quality costs ? Classify the various types of quality costs and give examples.
- ii) What are the customer perceptions of quality ? Explain.
- (OR)
- b) Explain Deming's fourteen principles for Quality Management. How do you feel that these will be useful in today's context in service industry.
12. a) Elaborate the Japanese 5s as applicable to services.
- (OR)
- b) Discuss the role and contributions of quality council.
13. a) Describe the traditional seven QC tools and their merits and demerits.
- (OR)
- b) Explain in detail the concept of FMEA.
14. a) Discuss the
- i) Concepts of TPM and (10)
- ii) Differentiate with TQM. (6)
- (OR)
- b) i) The Taguchi loss function for a certain component is given by  $L(X) = 7500 (X-N)^2$ , where  $X$  = the actual value of a critical dimension and  $N$  is its Nominal value. Company Management has decided that the maximum loss that can be accepted is Rs. 400. If the nominal dimension is 35.00 mm. Find the tolerance limits. (10)
- ii) Explain the concept of signal to Noise ratio. (6)
15. a) Explain how each element of TQM contributes to products and services of superior quality.
- (OR)
- b) Describe the implementation of ISO 14000 requirements and benefits.

(FN)

Reg. No. :

**Question Paper Code : 20633**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Sixth/Seventh/Eighth Semester

Civil Engineering

**GE 6757 — TOTAL QUALITY MANAGEMENT**

(Common to All Branches Except Marine Engineering)

(Regulations 2013)

(Also common to PTGE 6757 — Total Quality Management for B.E. (Part-Time)  
Fifth Semester Civil Engineering/Sixth Semester Computer Science Engineering  
Regulations 2014)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

**PART A — (10 × 2 = 20 marks)**

1. Elucidate Kaizen.
2. What do you mean by cost of quality?
3. Write a brief note on FMEA.
4. What is quality circle?
5. What is bench marking?
6. Enumerate the importance of process capability.
7. Write a note on QFD.
8. What do you understand about six sigma?
9. Write the significance of quality auditing.
10. Mention the elements of ISO 14000.



PART B — (5 × 13 = 65 marks)

11. (a) Discuss the need and basic concepts of TQM.

Or

- (b) Explain in detail about Deming Philosophy.

12. (a) Compare and contrast the role of a team leader and facilitator.

Or

- (b) Discuss about the supplier partnership procedures in detail.

13. (a) Describe the seven traditional tools of quality.

Or

- (b) Discuss the stages and types of bench marking.

14. (a) Explain the concept of six sigma in detail.

Or

- (b) Describe the objective and benefits of QFD.

15. (a) Explain the need for ISO 9000 and other quality system.

Or

- (b) Explain the concept and benefits of ISO 14000.

PART C — (1 × 15 = 15 marks)

16. (a) Discuss about the objectives, process and benefits of Quality Functional Deployment (QFD).

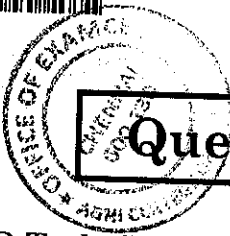
Or

- (b) Explain about projects in TQM and various supporting tools and techniques in TQM projects.



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**Question Paper Code : 91665**

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019  
Sixth/Seventh/Eighth Semester

Civil Engineering

GE 6757 : TOTAL QUALITY MANAGEMENT

(Common to Aeronautical Engineering/Automobile Engineering/BioMedical Engineering/Civil Engineering/ Computer Science And Engineering/Electrical and Electronics Engineering/Electronics and Communication Engineering/Electronics and Instrumentation Engineering/ Environmental Engineering/Industrial Engineering/Industrial Engineering and Management/Instrumentation and Control Engineering/Manufacturing Engineering/Materials Science and Engineering/Mechanical Engineering/ Mechanical and Automation Engineering/Mechatronics Engineering/Medical Electronics/ Petrochemical Engineering/Production Engineering/Chemical Engineering/Fashion Technology/ Food Technology/Information Technology/ Petrochemical Technology/ Petroleum Engineering/Pharmaceutical Technology/ Plastic Technology/Polymer Technology)

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART - A

(10×2=20 Marks)

1. Define Quality.
2. What is Customer Satisfaction ?
3. What are the qualities of good leader ?
4. Give note on Employee Empowerment.
5. Define Benchmarking.
6. Define Six sigma.
7. Give note on Process Capabilities.
8. What are Control Charts ?
9. What is Quality Audit ?
10. Give note on service quality.

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PART – B

(5×13=65 Marks)

11. a) Enumerate on the Framework of TQM.  
(OR)  
b) Explain the Principles of Deming on Quality.
12. a) Brief on the application of Quality circles in an Organization.  
(OR)  
b) Discuss the advantages and disadvantages of Performance Appraisal ?
13. a) Explain the stages and types of FMEA.  
(OR)  
b) Discuss the types of New Management Tools in detail.
14. a) Explain the process of TPM with Business Organization of your choice.  
(OR)  
b) Brief on House of Quality with reference to IT sector.
15. a) What are the need for ISO certification in Quality System ?  
(OR)  
b) What are the challenges of TQM implementation in Service sector ?

PART – C

(1×15=15 Marks)

16. a) Explain how you will create Quality culture with Organisation of your choice.  
(OR)  
b) "TQM is an Expense in Business Organisation" – Comment.
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