

Reg. No.

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

B.E / B.TECH. DEGREE EXAMINATIONS, MAY 2023

Sixth Semester

GE18052 – TOTAL QUALITY MANAGEMENT*(Mechanical Engineering)***(Regulation 2018 / Regulation 2018A)****TIME: 3 HOURS****MAX. MARKS: 100**

- CO 1** Able to describe the evolution and concepts of quality and Total Quality Management.
CO 2 Discuss the principles of TQM.
CO 3 Illustrate process monitoring tools and relate with industrial examples
CO 4 Apply the various techniques of TQM in industries
CO 5 Explain the need for Quality Management systems in industries

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

	CO	RBT LEVEL
1. How can quality be quantified?	1	1
2. List down the significance of quality statement and quality policy?	1	2
3. Differentiate between Employee involvement and Empowerment.	2	2
4. What are the requirements of reliable supplier rating?	2	2
5. Prepare a simple cause and effect diagram for outburst of covid-19 in India.	3	3
6. What is meant by 1. measure of central tendency 2. measure of dispersion.	3	2
7. Explain the difference between DFMEA and PFMEA.	4	2
8. Brief about the need for benchmarking in industries.	4	2
9. What does OSHAS 18000 refers to and list its advantages.	5	2
10. Compare QS 9000 with TS 16949 quality system.	5	2

PART- B (5 x 14 = 70 Marks)

	Marks	CO	RBT LEVEL
11. (a) Explain whether contributions of Juran and Crosby can be adapted to Industry 4.0 scenario. If yes, describe how it can be done?	(14)	1	3
(OR)			
(b) An award which is considered to be the highest level in quality is named after a famous management thinker. Briefly discuss the principles put forth by that management thinker.	(14)	1	2
12. (a) A new online retail shop delivering all essentials is coming into the Indian market as a competitor to Amazon, Flip kart, Jio, etc. Explicate the steps they need to take for customer focus, orientation, and satisfaction and ensure retention of customers.	(14)	2	3

(OR)

- (b) A bicycle manufacturing company is looking for suppliers for its major parts. They got 4 different alternatives in the name of A,B,C,D. The criteria they have chosen is Cost, Quality, Delivery, and Reputation. The criterion matrix is shown below. (14) 2 3

Criteria	Cost	Quality	Delivery	Reputation
Cost	1	2	4	5
Quality	1/2	1	2	4
Delivery	1/4	1/2	1	2
Reputation	1/5	1/4	1/2	1

Perform AHP analysis and choose the best alternative.

13. (a) (i) What is TPM? Explain the benefits of implementing TPM in the healthcare sector. (8) 3 3
(ii) Outline the reasons and scope for industries to shift from PDCA to PDSA. (6) 3 3

(OR)

- (b) Elucidate the 7 management tools of quality with an example for each. (14) 3 3
14. (a) Prepare a FMEA worksheet for failure of Ambassador cars in Indian Market. (14) 4 3

(OR)

- (b) Discuss the steps involved in construction of House of Quality and create a QFD matrix for an automobile company manufacturing electric cars. (14) 4 3
15. (a) (i) List the steps to be followed to get ISO 9000 for an educational institution (6) 5 3
(ii) Briefly explain how auditing is done in a logistics company (8) 5 3

(OR)

- (b) What are the elements/features of ISO 14000? Elaborate in detail the various ISO standards pertaining to 14000 series for a shoe manufacturing company. (14) 5 3

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

- | | Marks | CO | RBT LEVEL |
|---|-------|----|-----------|
| 16. Use any quality tool of your own choice and analyze the root cause for the failure of the Indian cricket team to win an ICC title in last 10 years. | 10 | 3 | 4 |