



Department of Automobile Engineering		LP: GE18052
B.E/B.Tech/M.E/M.Tech : AE & ME	Regulation: 2018A	Rev. No: 00
PG Specialisation : Not Applicable		Date: -03.01.2024
Sub. Code / Sub. Name : GE18052 TOTAL QUALITY MANAGEMENT		
Unit : I		

Unit Syllabus:

INTRODUCTION

Fundamentals of TQM – Historical developments – important philosophies- (Deming, Juran, Crosby, Ishikawa) and their impact of quality – Quality planning, Quality statement – Quality policy. 8

Objective:

Students will learn about the evolution and various concepts of TQM

Session No *	Topics to be covered	Ref	Teaching Aids
1	Fundamentals of TQM	1 – Ch.1-Pg.1-12	PPT
2	Historical developments	1 – Ch.1-Pg.7-8	PPT
3	Deming's philosophy	1 – Ch.1-Pg.24-27	PPT
4	Juran's contribution	1– Ch.1-Pg.4-5, 1– Ch.5-Pg.106-107	PPT
5	Crosby 's contribution	1– Ch.1-Pg.4-5	PPT
6	Ishikawa's contribution	1– Ch.6-Pg.128-129	PPT
7	Quality planning	1– Ch.2-Pg.37-39	PPT
8	Quality statement – Quality policy	1– Ch.2-Pg.35-36	PPT
Content beyond syllabus covered (if any): Dimensions of product quality			

* Session duration: 50 minutes



Sub. Code / Sub. Name : GE18052 TOTAL QUALITY MANAGEMENT

Unit : II

Unit Syllabus:

TQM PRINCIPLES

Customer focus - Customer satisfaction – customer perception of quality, customer complaints, Employee involvement – Empowerment and Team work- Recognition and Reward – Performance appraisal - Supplier Quality Management – Supplier Rating – Supplier rating by Analytical Hierarchical Process (AHP).

Objective:

Students will learn about the underlying principles of TQM and also study about the Supplier Quality Management

Session No*	Topics to be covered	Ref	Teaching Aids
9	Customer satisfaction – Teboul's model, Kano model	1 – Ch.3-Pg.45-47, 48-50	PPT
10	Customer perception of quality	1 – Ch.3-Pg.48-50	PPT
11	Customer complaints	1 – Ch.3-Pg.50-61	PPT
12	Employee involvement – Employee motivation and Employee Empowerment	1 – Ch.4-Pg.75-80	PPT
13	Team and team work	1 – Ch.4-Pg.81-90	PPT
14	Recognition and Reward, Performance appraisal	1 – Ch.4-Pg.93-97	PPT
15	Supplier Quality Management	1 – Ch.4-Pg.127-136	PPT
16	Supplier Rating	1 – Ch.4-Pg.133-135	PPT
17	Supplier rating by Analytical Hierarchical Process (AHP)	1 – Ch.4-Pg.135-136	PPT

Content beyond syllabus covered (if any):

Quality circles

* Session duration: 50 minutes



Sub. Code / Sub. Name : GE18052 TOTAL QUALITY MANAGEMENT

Unit : III

Unit Syllabus:

PROCESS MONITORING

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Seven tools of quality, New Seven management tools, Statistical fundamentals – Normal curve charts for variables and attributes, TPM – Concepts, Process Capability analysis, PDSA cycle, 5S, Kaizen.

Objective:

Students will gain knowledge about the basics of process monitoring tools and TPM concepts

Session No *	Topics to be covered	Ref	Teaching Aids
18	Seven basic tools of quality	1 – Ch.18-Pg.389-397	PPT
19	New Seven management tools	1 – Ch.17-Pg.373-384	PPT
20	Statistical fundamentals, Normal curve	1 – Ch.18-Pg.398-404	PPT
21	Control charts for variables	1 – Ch.18-Pg.404-422	PPT
22	Control charts for attributes	1 – Ch.18-Pg.422-429	PPT
23	TPM – Concepts and Measures	1 – Ch.16-Pg.361-369	PPT
24	Process Capability analysis	1 – Ch.18-Pg.418-422	PPT
25	PDSA cycle	1 – Ch.5-Pg. 110-117	PPT
26	5S and Kaizen	1 – Ch.5-Pg. 119-120	PPT

Content beyond syllabus covered (if any):

Why, Why analysis

* Session duration: 50 minutes



Sub. Code / Sub. Name : GE18052 TOTAL QUALITY MANAGEMENT

Unit : IV

Unit Syllabus:

TQM TECHNIQUES

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Quality Functions Deployment (QFD) – house of Quality, QFD process and benefits, Benchmarking process, Taguchi Quality Loss function, FMEA – concept, Industrial case studies on DFMEA and PFMEA – Six Sigma –concepts- Methodologies.

Objective:

Students will gain exposure to the various TQM techniques employed in industries

Session No *	Topics to be covered	Ref	Teaching Aids
27	Quality Functions Deployment (QFD)	1 – Ch.12-Pg.259-262	PPT
28	Constructing the house of Quality	1 – Ch.12-Pg.266-279	
29	QFD process	1 – Ch.12-Pg.282-283	PPT
30	Benefits and Case Studies on QFD	1 – Ch.12-Pg.261-262, 284-285	PPT
31	Benchmarking process	1 – Ch.8-Pg.165-175	PPT
32	Taguchi Quality Loss function	1 – Ch.20-Pg.487-492	PPT
33	FMEA – DFMEA and PFMEA - concepts	1 – Ch.14-Pg.313-335	PPT
34	Industrial case studies on DFMEA and PFMEA	1 – Ch.14-Pg.335-337	PPT
35	Six Sigma – concepts	1 – Ch.5-Pg.120-123, 1 – Ch.13-Pg.289-297	PPT
36	Six Sigma – Methodologies	1 – Ch.13-Pg.299-309	PPT

Content beyond syllabus covered (if any):

Six Sigma: Applications to manufacturing

* Session duration: 50 minutes



SRI VENKATESWARA COLLEGE OF ENGINEERING

COURSE DELIVERY PLAN - THEORY

Sub. Code / Sub. Name : GE18052 TOTAL QUALITY MANAGEMENT

Unit : V

Unit Syllabus:

QUALITY MANAGEMENT SYSTEMS**9**

Need for ISO – ISO 9001: 2015 – Elements, Implementation, Documentation and Auditing, QS 9000 / TS 16949 - ISO14000 and OHSAS 18000 – Concept requirements and benefits – Case studies.

Objective:

Students will familiarise with the various quality management system implemented in industries

Session No *	Topics to be covered	Ref	Teaching Aids
37	Introduction to Quality Management Systems, Need for ISO	1 – Ch.10 - Pg.205-206	PPT
38	ISO 9001: 2015 – Elements	1 – Ch.10 - Pg.209-217	PPT
39	Implementation and Documentation of ISO 9001	1 – Ch.10 - Pg.219-235	PPT
40	Quality Auditing, Case studies of ISO 9001	1 – Ch.10 - Pg.228-232, 235	PPT
41	Automotive Quality Management Systems - QS 9000 , ISO/ TS 16949	1 – Ch.10 - Pg.207-208	PPT
42	ISO 14000– Concepts, requirements and benefits	1 – Ch.11 - Pg.239-253	PPT
43	Case studies on ISO 14000	1 – Ch.11 - Pg.254	PPT
44	OHSAS 18000 – Concepts, requirements and benefits	1 – Ch.11 - Pg.254-255	PPT
45	Case studies on OHSAS 18000	1 – Ch.11 - Pg.254-255	PPT

Content beyond syllabus covered (if any):

Nil

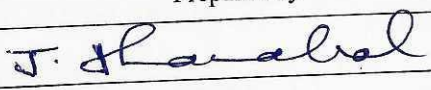
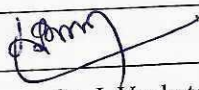
* Session duration: 50 minutes



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REFERENCES:

1. Dale H. Besterfield, et al., "Total quality Management", Third Edition, Pearson Education Asia, Indian Reprint, 2006.
2. Poornima M. Charantimath, Total Quality Management, Pearson education, 3rd edition, 2017.
3. James R. Evans and William M. Lindsay, "The Management and Control of Quality", 8th Edition, First Indian Edition, Cengage Learning, 2012.
4. Janakiraman. B and Gopal .R.K., "Total Quality Management - Text and Cases", Prentice Hall (India) Pvt. Ltd., 2006.
5. Shridhara Bhat, "TQM Text and Cases", Himalaya Publishing House, 2002.
6. Suganthi.L and Anand Samuel, "Total Quality Management", Prentice Hall (India) Pvt. Ltd., 2006.

	Prepared by	Approved by
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Designation	Assistant professor	Professor & Head
Date	03.01.2024	03.01.2024
Remarks *:		
Remarks *:		

* If the same lesson plan is followed in the subsequent semester/year it should be mentioned and signed by the Faculty and the HOD