



Department of Mechanical Engineering
Academic Year 2021 – 2022 (Odd Semester)

Degree, Semester & Branch: B.E,VII Semester Mechanical

Course Code & Title: GE8077 & Total Quality Management

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Innovative Practice Description

- **Unit / Topic:** Unit IV /Control chart

- **Course Outcome:** CO4

- **Topic Learning Outcome:** TLO1

- **Activity Chosen:** Solving different control charts using Minitab software

- **Justification:**

Identification of deviation in the production process and to arrest that deviation is mandatory. So, the control charts is a fundamental tool in TQM to control the deviations in the production process.

The process of preparing the control chart is a tedious process when the number of products is higher. In order to simplify the process Minitab software is a useful software package. By this pedagogy students can able to use this statistical software for their final year project works in quality domain.

- **Time Allotted for the Activity:** 60 Minutes session were arranged for the students for the hands on training in the statistical software package.

- **Details of the Implementation:**

Students were given demo for using the Minitab software to solve the different attribute, variable charts they learned in the regular course.

CO – PO / PSO mapping:

CO	PO1	PO2	PO4	PO5	PO9	PO10	PO12	PSO2
CO2	2	2	3	3	2	3	2	3

(1 – Low 2 – Moderate 3 – High)

- **PO / PSO mapped:**

Innovative practice	PO1	PO2	PO4	PO5	PO9	PO10	PO12	PSO2
	2	2	3	3	2	3	2	3
Justification for correlation	Pre-requisite knowledge about statistics and limits, fits, tolerance necessary. So,	To obtain conclusion for the quality deviations occurred.	Understand the role of engineers to provide the solution	Since the statistical software packages are one of the modern	Individual and team work is required to control the deviation	While preparing the solutions to the deviation in the production process	Control of deviations and learning for the solutions	By the usage of control charts solutions to the



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	it is mapped level 2	So, it is mapped at level 2.	for the complex quality issues in the production process. so it is mapped at level 3	tools used to control the deviation in the product dimensions. so it is mapped at level 3	in production process. So, it is mapped at level 2.	communication to the process peoples is necessary. So, it is marked as level 3.	is a continuous process. So, it is given level 2.	deviations is provided. So, it is given level 3
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- **Images / Screenshot of the practice:**





- **Reflective Critique:**

- ❖ ***Feedback of practice from students and other stakeholders:***

Students feel very comfortable while using this software to solve the different attribute and variable charts.

- ❖ ***Benefit of the practice:*** (E.g.: Outcome attainment would have increased due to innovative practice over conventional practice)

By the hands on training using statistical software package students can able to solve the control chart problems.

By the usage of this software more sample runs can be made compared to the manual approach.

- ❖ ***Challenges faced in implementation:***

Short duration period for the training of this software is the huge challenge while training this statistical software package to the students.

References:

1. James R. Evans and William M. Lindsay, "The Management and Control of Quality", 8th Edition, First Indian Edition, Cengage Learning, 2012.
2. Janakiraman. B and Gopal .R.K., "Total Quality Management - Text and Cases", Prentice Hall (India) Pvt. Ltd., 2006.
3. Suganthi.L and Anand Samuel, "Total Quality Management", Prentice Hall (India) Pvt. Ltd., 2006.ISO9001-2015 standards

Signature of Faculty Member

HOD

