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Analysis of 5S Methodology in Mechanical Work Shop at RCET Raipur

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Abstract: Quality control is the requirement of any industry or workplace or mechanical workshop needs to be continuously monitored for quality control due to the nature of works carried out there. The present research paper deals with the analysis of the 5s quality control so that it can be suitably applied in the mechanical work shop of Rungta college of engineering and technology Raipur. This research paper will pave the way for the application of 5s quality control method in the above mentioned mechanical workshop
Keywords: Mechanical; quality control; workshop.

I. INTRODUCTION

5S is a technique which is originated from japan. It was Hiroyuki Hirano. It was taken from Japanese 5 words that is seiri, seiton, seiso, shiketsu and shitsuke. Respectively which means Sort, set in order, Shine, Standardize and sustain. The 5s methodology is taken from 'kaizen' principle which means change for better. it is basically used for improvement of efficiency and productivity of industries and work Area. [1&2]

A. Seiri(sort)

It may be defined as the removal of all unwanted, unrelated and unnecessary material in work place.

B. Seiton (set in order)

This term is used to arrange all the things in such a way that it can be accessed or retrieved quickly within 30 sec.

C. Seiso(shine)

It means cleaning of the work place and giving it a shine.

D. Seikestu(standardize)

It defined as the standards by personal must maintain and measure cleanliness.

E. Shitsuke(sustain)

It means 'discipline'. it checks the orderliness of the all the above 4s as given above.

II. 5S METHODOLOGY

A. Seiri (Sort)

The unnecessary and necessary material available in the work area should be sorted and classified. with the help of suitable sorting we can identify the materials, tools and necessary items required in the task.
The tools which are frequently used are sorted in such a manner or placed in such a way within which easy reaching is possible. This leads to decrease in hazards in the work area with improving the productive work.
On the basis of our surveillance it is possible to eliminate the unnecessary item according to Seiri rule. On the next step we should execute the all things which are in the work place and group them according to definite place.
According to sorting we should eliminate the unnecessary things found in work place.

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1) Benefits

a) Better Utilization of work area.
b) Reduction in losing of tools.
c) Decrease in stock in work area.

B. Seiton (Set in order)

It means preparation of necessary items systematically and neatly so that it can be easily taken from a allotted place and it can be easily return to its original place provided. The main goal of seiton is to minimize time required by the worker to necessary item required to perform a specified work. By forming a regular work area, we can avoid time loss. While searching for material thereby improving the efficiency. the system is made to minimize the number of moves in the work area that a worker has to perform during operation.

Especially visualisation of the workplace is necessary i.e. floor painting of corridors, drawing layout of tools which make easy for quickly putting inside the cases.



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1) Benefits

a) Reduction of time to find necessary things.
b) Improving the safety system.
c) It includes the process improvement.

C. Seiso(shine)

The basic concept of seiso is to create a clean working area and clean workplace. The waste are source of inefficiency indiscipline and untidiness. To easily clean the factory, floor the floor should be painted and establish light sources within factory.
The next step is to renovate the workplace. The 3rd S rule and realize on every day. Cleaning activity workplace must be cleaned at alternate intervals according to requirement whenever it is needed. [3]



1) Benefits

a) The efficiency of the machine might increase with this technique.
b) Maintenance of devices.
c) To keep the work place clean.
d) The damages are easily and frequently informed.
e) Work environment is improved which results in elimination of hazardous accidents.

D. Seiketsu(Standardize)

The concept of seiketsu is to ensure the standards are compiled and the work area is clean and tidy all the time.it means making of consistent ways of doing procedure and task.
This is done with the job of ensuring the condition which does not reverse back. Everybody should know exactly what the work is for and knowing exactly How, when and where to implement the work assigned to them. In order to maintain the continuity of these good practices the necessary system should be performed.

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Implementation and worked out standard in the form of instruction and procedure. the standard should be very clear, easy to understand and should be very communicate. Basic standard should apply everywhere in the facility . everybody should know what are the responsibility. Housekeeping duties are part of some regular work routines. There is a need of some time to choose the better ways to practice sort, set in order and Shine abide by them.



1) Benefits

a) Pollution created by industries is reduced.

b) Safety of work area is increased.

c) The allotted procedure is achieved at given sort of time

.

E. Shitsuke(Sustain)

Employee should be trained to maintain disciplines for practicing and obey the 5s system so that it makes a habit if properly maintaining correct procedure. It will be done with the objective of attaining higher productivity. The task should be by higher productivity the task should be undertaken by higher official. The higher authorities should explain the importance of 5s to the person with the help of various training and the knowledge of 5s should be kept updated through the help of 5s methodology departments.

It is very important to execute the routine inspection of 5s rule.

1) Benefits

a) The mistake and quantity reduction from inattention is decreased.

b) Inter-human relationship is improved.

c) It helps to increase moral and general awareness.

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III. EXPECTED ADVANTAGES OF 5S IMPLEMENTATION IN WORKSHOP

With the successful implementation of 5s the following benefits may be observed.

A. This concept is quite simple and easy to understood by everybody because it requires only knowledge of conventional discipline.5S can be implemented at all level of work.
B. This methodology will foster discipline, teamwork and increase the sense of responsibility.
C. 5s methodology will make clean productive and secure work area.
D. This technique is an on-going need to maintain excellent service.
E. With the help of implementation of 5s the speed of completion of work is can improved
F. The main benefit of implementation of 5s technique is that the work area would be a better place to work with a clean and healthy environment
G. The assessment of audit will normally make the organization to continuously manage the quality and effectiveness of workplace. [4]

IV. PROBLEM IDENTIFICATION

A. It requires much time to find any tool or object.
B. The work area is also unsafe for proper conduction of work.
C. Due to unclean and dirty workplace, the people have to face some type of difficulties
D. The unnecessary items occupy space in work area.
E. Indiscipline behaviour was responsible for accidents in workplace.

V. EXPECTED CONCLUSION

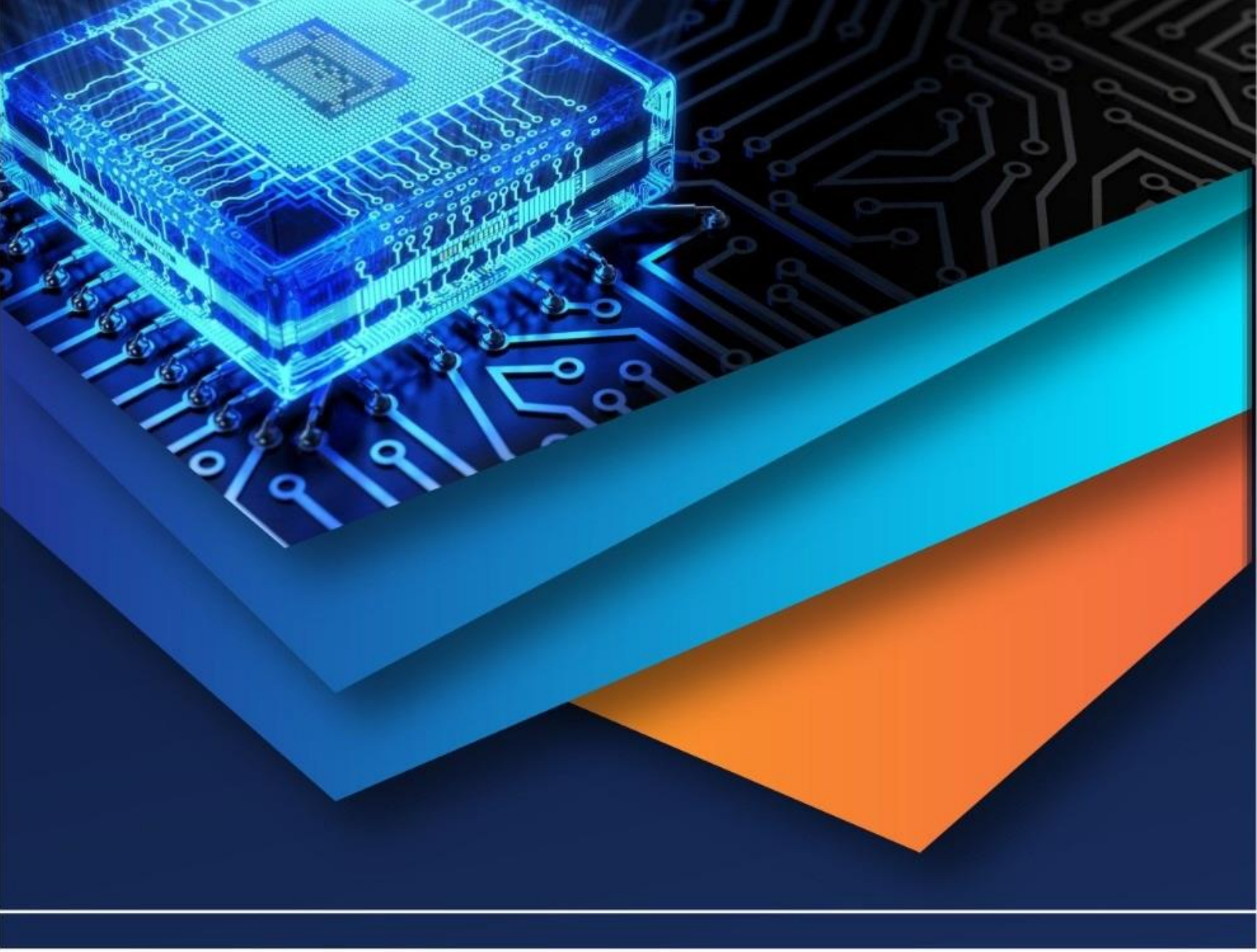
The 5s quality control method will guide toward the betterment of workplace invarious ways. Following are the effect of 5s quality control:

A. People will be more discplined and focused toward work.
B. Better workplace can be seen practically.
C. More space will be available with the same amount of object and machine.
D. It will show a good effect on the performance of work by improving quality and increasing th eefficiency of tool and machine.

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