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periodic maintenance!

→ Periodic maintenance refers to the process of scheduled and regular inspections, & servicing of equipment, machinery & infrastructure within an industrial setting.

⇒ It involves examining, cleaning, lubricating, repairing or replacing components to maintain optimal performance.

⇒ This proactive approach helps in ensuring that, everything is functioning correctly, identifying & fixing potential issues before they lead to accidents or breakdowns.

merits:

- we can take preventive measures
- Enhanced performance
- It is cost saving
- It provides safety & reliability
- provides compliance with regulations.

Demerits:

- Dependency on schedule
- It requires time, money & labor
- It can disrupt other operations
- over maintenance.

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Preventive maintenance

- ⇒ Preventive maintenance refers to the proactive approach of regular inspections, servicing & repairing of equipment to prevent potential failures & breakdowns.
- ⇒ It involves examining, cleaning, lubricating, repairing & replacement of components when needed.
- ⇒ This proactive approach helps in ensuring that everything is functioning correctly, identifying & fixing potential issues before they lead to accidents or breakdowns.

Merits:

- Reduces downtime
- Prolongs equipment life
- It is cost saving comparatively
- Enhanced efficiency

Demerits:

- Time consuming
- It requires skill & training
- Potential over maintenance
- Human / Labor error can happen.

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Degreasing

⇒ Degreasing refers to the process of removal of dirt, dust, rust, oil, grease from the parts to make them ready for inspection & measurement of dimension.

Methods of degreasing.

i- cleaning using petrol, kerosene & diesel

ii- Thermal cleaning method - acetylene flame gas

iii- cleaning by machining methods - wire brush
- milling cutter
- Rotary

iv- chemical cleaning - Lime
- caustic soda
- Residual oil

v) Abrasive cleaning - hydraulic sand blast.

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Mechanical overhauling

overhauling of electric motor

- ⇒ mechanical overhauling refers to the comprehensive inspection, repair & maintenance of mechanical equipments.
- ⇒ mechanical overhauling is used to maintain proper functioning, reliability & safety of equipments.
- ⇒ mechanical overhauling involves dismantling, checking, repairing & reassembling machinery or mechanical systems to prevent breakdowns & enhance performance.
- ⇒ This process typically includes, cleaning, lubricating, repairing & replacing worn-out parts & conducting necessary tests to ensure its operational efficiency & safety.

- Advantages:

Common troubles & remedies of electric motor

- i) collection of dust & contaminants
- ii) leakage of oil
- iii) Effect of humid atmosphere
- iv) " " Friction
- v) misalignment
- vi) vibration
- vii) over load & under load.

VEIN Analysis! (Repair)

- ⇒ Here is the grouping of the activities is done according to the utility & importance of arc
- ⇒ The MIC are divided in the groups!

V - Volatile MIC

E - Essential MIC

I - Important MIC

N - Normal MIC

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Preventive maintenance procedure!

i) Planning!

→ Identify the equipments ^{need} to be maintained on regular interval & gather necessary resources. Periodic maintenance.

ii) Scheduling!

→ Create a maintenance calendar, outlining ~~for~~ when each task needs to be performed.

iii) Inspection!

→ Regularly examine machinery, systems for wear & tear, damage & potential issues.

iv) Cleaning & Lubrication!

→ Remove debris, dirt & apply lubricants for smooth operation.

v) Replacement!

→ Replace worn-out parts & component before they fail, to prevent breakdowns.

vi) Testing & Calibration!

→ Verify the equipment performance through tests & recalibrate if needed.

vii) Documentation!

→ Keep detailed records of maintenance activities & repairs for future reference & analysis.

(26) Steps for periodic & preventive maintenance of machine tools.

→ Remove the electrical connection

→ Empty the oil from the sump

Inspection:

→ Give speed & feed to the mechanism.

→ Adjust clearance.

→ Clean the oil filter & coolant filter.

→ Provide oil & grease.

→ Tighten the bolts.

Repairing:

→ Change the worn-out bolts.

→ Change the lubrication oil.

→ Clean the parts which has more wear.

→ Repair the oil pockets.

→ Paint the machine surface.

→ Check & repair the machine foundation.

→ Test the machine completely after fitting.

→ Test the machine in every 6 months or after complete overhauling.

ii) Steps for Periodic & Preventive maintenance of pumps!

- check whether the pump is working finely or not.
- Remove the electrical connection.

Inspection:

- stop the leakage
- clean the filter
- tighten the bolts
- check the discharge using manometer.

Repairing:

- Replace the worn out teeth & bearing.
- Replace the damaged seals.
- Remove dusts & dirt from the face of the pump.
- Replace the worn out piston
- Replace the worn out pipes
- Replace the damaged wires.
- Test the pump after fitting.
- Test the pump in regular interval for prolong life.

iii) Steps for periodic & preventive maintenance of Air compressor

⇒ Check the Air compressor, whether it is working finely or not.

⇒ Remove electrical connection

Inspection!

⇒ Stop the leakage.

⇒ Clean the filter.

→ Tighten the bolts.

→ Provide oil & grease (lubrication)

→ Adjust clearances.

→ Check the cooling system

→ Check belts & pulleys

Repairing!

→ Remove dusts & dirt from the Air compressor.

→ Change the air filter if needed.

→ Replace defective switches & electrical wires.

→ Replace worn out pipes

→ Replace damaged seats

→ Replace the motor parts if needed.

→ Test the air compressor after fitting.

→ Test the air compressor in regular interval for performing optimally.

iv) Steps for Periodic & Preventive maintenance of Diesel Generating (DG) set.

- Check whether the DG is performing optimally or not.
- Remove the electrical connection.

Inspection:

- Stop the leakage from fuel tank.
- Check the lubrication oil level & coolants.
- Check the fuel level.
- Clean the engine & exhaust system.
- Tighten the bolts.
- Check battery & electrical connection.

Repairing:

- Clean the dusts & dirt from the generator.
- Change the nuts & bolts that worn out.
- Refuel the fuel tank & replace the battery if needed.
- Change the air filter system & exhaust system.
- Change the defect electrical components.
- Test the DG set after fitting.
- Test the DG in regular interval for better efficiency.