



**State exam questions
Mechanical Engineering BSc
Operation and Maintenance specialization**

Maintenance Engineering

1. Basic terms of Maintenance, History of Maintenance, Reactive (Run-to-failure) Maintenance.
2. Preventive Maintenance, Predictive Maintenance, Condition Monitoring.
3. Maintenance Triggers (Breakdown trigger, Time trigger, Usage trigger, Event trigger, Condition trigger).
4. Maintenance Productivity and Performance Measurement, Maintainability and System Effectiveness.
5. Failure Statistics, Failure Mode and Effect Analysis.
6. Key Performance Indicator Systems, Overall Equipment Effectiveness (OEE) calculation.
7. Describe the Mean Time to Repair indicator.
8. Describe the Mean Time Between Fail indicator.
9. Describe the Andon and Jidoka tools with 2-2 examples.
10. Reliability Centered Maintenance.
11. Total Productive Maintenance.
12. Root Cause Analysis, fishbone diagram, 5Whys etc.
13. 5S and 6S tools.
14. Deming Circle (PDCA Circle) and Poka Yoke tools (with examples).