



Industrial Maintenance Interview Outline



Industrial Maintenance Technical Interview Outline

The Technical Interview consists of the following components:

- Multi Skill Test (*non programmable calculators allowed*)
- Recommendation for a Personnel Interview (*application required*)

The 1st step will consist of a Multi Skill assessment on mechanical, electrical, and Industrial Math. This assessment has a 2.5 hour maximum time limit. The results will be reviewed with the candidate upon completion. *Successful completion of this step is required in order to proceed to the next step.*

Upon successful completion of Step #1 the candidate will be referred for a Personnel Interview. Usually, this interview will be scheduled with the company within 5-10 business days. Occasionally, it could be completed on the same day as the Technical Interview.

Other Notes:

- Confirm a testing session (*see invitation letter/email*)
- Bring a calculator
- Go to our resources page <https://jobs.michelinman.com/study-guides-interview-outline> to download the Michelin mechanical, electrical, and math reference material



Michelin North America, Greenville SC

Entry Level "Reliability Technician" Assessment

Assessment Topics

ELECTRICAL TECHNOLOGY

MATH

MECHANICAL TECHNOLOGY

MEASUREMENTS

BLUEPRINTS

MAINTENANCE BACKGROUND

Number of Questions: 150

Number of Task Statements Assessed: 46

Knowledge and Skill Assessment Task Statements

ELECTRICAL CONTROL TECHNOLOGY

AC MOTORS

Able to troubleshoot motors (opens, grounds, and shorts)

Knowledge of AC motor construction

Knowledge of AC motor operation (squirrel cage, wound rotor, etc...)

Knowledge of nameplate data

Knowledge of wiring configurations

AC THEORY

Able to calculate AC voltages and currents (effective, average, and peak)

Knowledge of AC voltage and current (effective, average, and peak)

ACTUATORS AND SENSORS

Knowledge of common detectors

Knowledge of different operator heads and contact configurations

Knowledge of operation of proximity sensors

BREAKERS AND FUSES

Knowledge of fuse and breaker types and ratings

DC THEORY

Able to apply Ohm's law to solve problems

Knowledge of capacitance

POWER AND CONTROL DEVICES

Able to determine faulty power and control devices

Knowledge of contactor and control relay operation

Knowledge of electrical and mechanical interlocks

Knowledge of the operation of "seal in" circuits

Knowledge of timer operations

TRANSFORMERS

Knowledge of nameplate data and ratings

Knowledge of transformer theory

TROUBLESHOOT POWER AND CONTROL CIRC

Knowledge of electrical schematic diagrams

INDUSTRIAL MATH

FUNDAMENTALS

- Knowledge of area, volume, mass and weight*
- Knowledge of concepts of algebra*
- Knowledge of exponents*
- Knowledge of ratios and proportions*

METRIC SYSTEM

- Knowledge of US and metric conversions*

TRIGONOMETRY

- Knowledge of concepts of trigonometry*
- Knowledge of right angle trigonometry and vectors*

MECHANICAL TECHNOLOGY

APPLIED FORCES

- Knowledge of common units of torque*
- Knowledge of force, distance and fulcrum*
- Knowledge of torque and speed relations*

BEARINGS

- Able to install and remove various types of bearings*
- Knowledge of bearing installation techniques*
- Knowledge of plain and anti-friction bearings*

DRIVE SYSTEMS

- Able to determine direction of rotation in a drive system*
- Able to perform alignments using a straight edge and feeler gauge*
- Able to perform parallel/angular alignments*
- Knowledge of gear backlash*

FASTENERS

- Able to correctly install fasteners*
- Knowledge of proper torquing procedures*
- Knowledge of standard and metric fasteners*

LUBRICATION

- Knowledge of the properties of lubricants*

PRINT READING

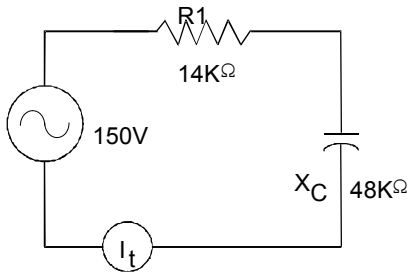
- Able to interpret and differentiate between all types of sectional views*
- Knowledge of sectional views*

SHOP PROJECTS

- Able to measure accurately to 0.001 inch or 0.02 millimeters*
- Able to use calipers, micrometers, height gauges, feeler gauges, dial indicators, and squares*

Electrical Written Test Examples

In the figure below, what is the total current of the circuit?

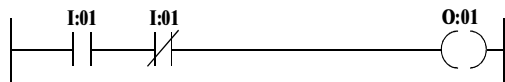


- A. 1.2 mA
- B. 2.4 mA
- C. 3.0 mA
- D. 10.7 mA

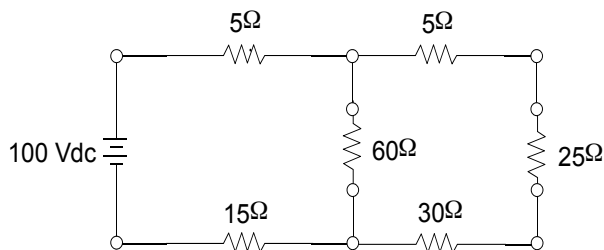
To prevent a voltmeter from loading the circuit being measured, the

- A. meter impedance should be low
- B. ohms per volt should be high
- C. sensitivity should be low
- D. circuit impedance should be high

Identify (if any) the logic traps that appear in the PLC ladder logic below.



- A. always on
- B. no trap, rung okay
- C. no way to turn rung off once true
- D. always off



The total resistance of the above circuit is _____ ohms.

- A. 50
- B. 100
- C. 150
- D. 200

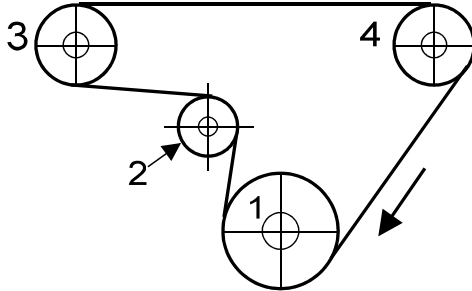


Mechanical Written Test Examples

Which tool would you use to put threads inside a hole?

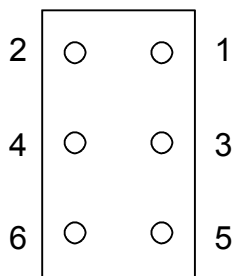
- A. file card
- B. snips
- C. pin punch
- D. tap

Which of the following pulleys turn the same direction as #1?



- A. 2 & 4
- B. 2 & 3
- C. 3 & 4
- D. 1 & 2

A correct torquing pattern for the figure below would be



- A. 123456
- B. 164235
- C. 341625
- D. 634125