

Apprentice Pump Installer & Pump Installer License Study Topics

Definitions and Terminology

- Design of water pump system
- Unconfined and confined aquifers
- Static water level
- Drawdown
- Specific Capacity
- Cone of depression
- Pumping water level
- Recovery
- Yield
- Vacuum
- Types of pumps & components
- Adding stages to well pump
- Types of valves
- Psi
- Water mining
- Total dynamic head
- 2-wire submersible pump motors
- Intermediate storage tank
- Resistance scales
- Compound gauge
- Backspin
- Calibrating an ohmmeter
- Types of submersible pumps
- Recovery test
- Pump altitude
- Water table
- Types of tests
- Cone of depression
- Maximum yield
- Hydrologic cycle
- Water Mining
- Groundwater recharge
- Fishing
- Turbidity
- Permeability
- Types of valves

- Adding stages to a pump
- Pipe capacity (volume)
- Well vacuum
- Internal seal mechanisms

Conversions / Math

- 1 psi = 2.31 ft of head
- Flow versus Pressure
- Maximum yield
- Measuring pump motor amperage

Safety

- Eye protection
- Causes of electrocution
- Acetylene torches
- Status of circuit breaker
- Injuries on site
- Hydrogen Sulfide

State Regulations

- Violations
- Potability of a well
- Change of employment
- Hydrogeologic Areas 1-5
- Production of well system
- "Miss Utility"
- Voltage
- Well permits
- MOSHA
- Protective devices for all pumps
- Installation completion of a pump
- Domestic water supply system standards

Maintenance/troubleshooting

- Air-bound
- Pressure: start-up/shut-off
- Water level measurement tools
- Pump tests
- Groundwater quality
- Iron
- Servicing a well
- Limit of horizontal/vertical length of a suction pipe
- Start-up/shut-off pressure
- Causes of leaks in pipes and pumps
- Pressure switch
- Chlorine disinfection
- Pumping sand
- Airlock of suction line
- Causes of a blown fuse in a pump
- Over-pumping & air-bound of a submersible pump
- Water-hammer
- 2- centrifugal pumps in a series/in parallel
- Motor winding resistance
- A pipe's coefficient of friction
- Location of a pump
- Design of a water pumping system

Electrical

- 3-phase submersible pump motor
- Circuit breaker
- Power supply