

Study materials provided by the Department may not necessarily cover all matters tested. Candidates are required to seek additional study material on their own.

Other study resources are listed below:

1. OSHA- [www.osha.gov](http://www.osha.gov)
2. Groundwater and Wells, Driscoll
3. Spicer drive line operating angel calculator
4. National electric code
5. NRD Website
6. CentriPro instruction manual
7. Goulds I/O manual
8. Centrifugal Pumps & Motors AWWA
9. ANSI/NGWA
10. Lorentz solar powered submersible pump system manual
11. Franklin electric maintenance manual
12. Water Systems Handbook, Water Systems Council

## **Pump Review Material**

Know what an ohmmeter does

Know what an ammeter does

Know what three factors that proper electrical cable sizing for any pumping system depends on

Know the recommend minimum safe working distance from overhead power lines

Know what treated sand/gravel is

Know why static water levels can fluctuate in an unconfined aquifer

Know the purpose of a magnetic motor starter

Know what determines a pump systems total discharge head

Know what volts means

Know why to operate a centrifugal pump at the designated head

Know the purpose of a coliform count

Know what determines the amount of water an impeller will pump

Know how to properly measure the pump motor amperage

Know what determines the head pressure in a column of standing water

Know what a three-phase motor is

Know what diffuser wear rings are

Know what amps means

Know how to chlorinate a well

Know what a tremie pipe is

Know acceptable fill material to decommission a test hole

Know what a spiral rotor is

Know acceptable materials for filling a hand dug well

Know what hazardous chemicals are used in a water well

Know what a licensed pump installation contractor can do

Know what watts mean

Know what will happen if the impeller is turning in the incorrect direction

Know what the purpose of a sand collar on a turbine pump is

Know the maximum recommended voltage drop at startup of a submersible motor

Know the standard atmospheric pressure at sea level

Know what deep reciprocating wells are