



KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Agri. Engg) 2016 Admission
VI Semester Final Examination-June 2019

Iden. 3209

Ground water, Wells and Pumps (2+1)

Marks: 50

Time: 2 hours

(10x1=10)

I Fill up the blanks

- 1 The well water level rises above the aquifer water level in a _____
- 2 Practically the suction lift of a centrifugal pump is _____
- 3 The pump used for high discharge and low head is _____
- 4 Storage coefficient is the same as the specific yield for _____
- 5 _____ is provided at the entrance of suction pipe during centrifugal pump installation.

State True or False

- 6 Leakage factor is the property of semi confined aquifer
- 7 Occurrence of groundwater can be detected by resistivity meter
- 8 The water level stands in the well before pumping is static water level
- 9 A submersible pump is required when delivery head is too high
- 10 The specific yield of a formation may be more than its porosity

II Write Short notes on any FIVE of the following

(5x2=10)

- 1 Different types of flow condition
- 2 Darcy's law and its limitation
- 3 Assumptions of Thiem's Equation.
- 4 Slip
- 5 Pump troubles and remedies
- 6 Components of reciprocating pumps
- 7 Calculate the water horse power of a centrifugal pump of 10 litres/ second capacity and 38 metre total head.

III Answer any FIVE of the following.

(5x4=20)

- 1 Fully penetrating tube wells
- 2 Installation of well screen
- 3 Well interference
- 4 Archimedean screw
- 5 Variable displacement pumps
- 6 Air lift pumps
- 7 Pump characteristic curves

IV Answer any ONE of the following

(1x10=10)

- 1 Derive an equation for discharge through a confined aquifer with all assumptions.
- 2 Explain centrifugal pumps components, principles and working with a neat sketch.
