

Roll No.:

Total No. of Questions : 11] [Total No. of Printed Pages : 4

PK-450

**M.Sc. IV Semester Geology (Reg./ATKT)
Examination June 2018**

HYDROGEOLOGY

Paper- III

Time Allowed : Three Hours]

[Maximum Marks : 85

Note : Attempt all questions. Marks are allotted against each section.

Section - A

Objective Type Questions

Q.1. Choose the correct answer: 5×2=10

- i) Water of aeration is known as
- (a) Vadose
 - (b) Connate
 - (c) Juvenile
 - (d) All of the above

(2)

ii) Which of the following sediments shows high specific yield

- (a) Gravel (b) Clay
- (c) Fine sand (d) Silt

iii) When two shale horizons confining a porous sandstone forms

- (a) Confining beds (b) Aquifer
- (c) Aquadude (d) None

iv) Total hardness of the water can be expressed as

(a) $TH = Ca \times \frac{CaCO_3}{Ca} + Mg \times \frac{CaCO_3}{Mg}$

(b) $TH = Mg \times Ca \frac{CaCO_3}{Ca + Mg}$

(c) $TH = \frac{MgCO_3 + CaCO_3}{Ca \times Mg}$

(d) All of the above

v) Recharge area is that region which

- (a) Supplies water to a confined aquifer
- (b) Supplies water to unconfined aquifer
- (c) Supplies water to perched aquifer
- (d) Takes water from confined aquifer

(3)

Section - B

Short Answer Type Questions

5×5=25

Q.2. Define Precipitation.

OR

Define Ground water.

Q.3. Define Porosity.

OR

Define water table map.

Q.4. Define confined and unconfined aquifer.

OR

Define unsteady state flow.

Q.5. Explain physical properties of water.

OR

Explain Biological characters of water.

Q.6. Explain salt water intrusion.

OR

Explain Water logging.

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(4)

Section - C

Long Answer Type Questions

5×10=50

Q.7. Describe Hydrological cycle and its importance.

OR

Describe occurrences of Ground water.

Q.8. Describe hydraulic conductivity and how it measured. Explain it.

OR

Describe the classification of aquifer.

Q.9. Describe Darcy law and its range of validity.

OR

Write an essay on pumping test methods. Describe in detail one of them.

Q.10. Describe chemical quality of water for irrigation purposes.

OR

Describe various methods plotting of chemical data of water.

Q.11. Write an essay on Water Managements.

OR

Write an essay on artificial recharge methods for rural areas.

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