18P258 (Pages: 2) Name:……..

Reg. No:……..

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2019

(Regular/Improvement/Supplementary)

(CUCSS - PG)

CC15P GEL2 C07 - HYDROGEOLOGY

(Applied Geology)

(2015 Admission onwards)

Time: Three Hours Maximum: 36 Weightage

I. Short answer type questions. Answer ***all*** questions.

1. Infiltration.
2. Storativity and transmissivity.
3. Hydrographs.
4. Bore wells.
5. Stiff diagram.
6. Rain water harvesting.
7. Apparent resistivity.
8. Vadose and phreatic zones.
9. Specific capacity.
10. VES
11. Lineament mapping.
12. Isobaths.
13. Water table contour maps.
14. Hydraulic gradient.

(14 x 1 = 14 Weightage)

II. Short essay type questions. Answer any ***seven*** questions.

15. Describe the procedures of a pump test.
16. Artificial Recharge Methods.
17. Define Darcy's Law with sketches.
18. What are springs? How are springs useful as a source of water supply?
19. Application of radioisotopes in hydrogeological studies.
20. Role of remote sensing in groundwater studies.
21. Groundwater problems related to canals and tunnels.
22. Define cone of depression with a neat sketch.
23. Discuss Sodium Absorption Ratio and its use in hydrochemistry.
24. Sketch a hydrologic cycle and indicate the major components of the cycle.

(7 x 2 = 14 Weightage)

III. Long essay type questions. Answer any ***two*** questions.

25. Recommend various measures that may increase groundwater recharge in a watershed with high water demand (with sketches) and discuss about sub-surface dykes.

Or

26. Write an essay on groundwater contamination and discuss in brief on the use of Piper's trilinear diagram for determining the groundwater quality.

27. What are the causes of saline water intrusion into coastal aquifers? Explain the Ghyben-Herzberg relationship between saline water and freshwater.

Or

28. Define ground water exploration and explain the principle involved in electrical resistivity method of groundwater survey.

(2 x 4 = 8 Weightage)

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