

C 83644

(Pages : 2)

Name.....<sup>12</sup>

Reg. No.....

**SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2015**

(CUCSS)

Applied Geology

GEL 2C 07 – HYDROGEOLOGY

Time : Three Hours

Maximum : 36 Weightage

I. Short Answer Type Questions. Answer *all* questions :

1. Evapo-transpiration.
2. Springs.
3. Specific yield.
4. Water table contour maps.
5. Darcy's law.
6. Drawdown.
7. Cone of depression.
8. Steady and unsteady flow conditions.
9. Stiff's diagram.
10. Ghyben-Herzberg relation.
11. Bore wells.
12. Maintenance of wells.
13. SP logging.
13. Open wells.
14. Deccan Plateau groundwater province.

(14 × 1 = 14 weightage)

II. Short Essay Type Questions. Answer any *seven* questions :

15. Vertical distribution of groundwater.
16. Classification of aquifers.
17. Causative factors of water table fluctuations.
18. Evaluation of aquifer parameters using Jacob and Walton methods.
19. Problems of arsenic and fluoride contamination in groundwater.

Turn over

20. Hill-Piper trilinear diagram.
21. Wenner and Schlumberger configurations.
22. Well logging techniques for delineation of aquifers.
23. Problems of overexploitation and mining of groundwater.
24. Artificial recharge of groundwater.

(7 × 2 = 14 weighta

III. Long Essay Type Questions. Answer *two* questions :

25. Describe the methods of determination of hydraulic conductivity in the laboratory.

*Or*

26. Give an account of saline water intrusion in coastal aquifers. Add a note on the prevent and control methods of saline water intrusion.
27. Describe the applications of remote sensing for groundwater exploration, highlighting hydrogeomorphic mapping, lineament and shallow groundwater potential zone mapping.

*Or*

28. Describe the groundwater problems related to foundation work, mining, canals and tunnels.

(2 × 4 = 8 weighta