

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2018 - 19 Examination

Semester: 6
Subject Code:03110353
Subject Name:Ground Water Wells & Pumps

Date:02/05/2019
Time:10:30am to 01:00pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions (All are compulsory) (Each of one mark) (15)

1. _____ is defined as the water present in the zone saturated below the ground.
2. _____ and _____ are the types of aquifers.
3. _____ and _____ are the methods of drilling.
4. Quality of ground water increases as the _____ increases.
5. _____ is the synonym of percussion drilling.
6. Describe steady flow and transient flow?
7. Enlist the aquifers and its types?
8. Explain Soil water balance method from ground water recharge?
9. Explain Specific yield?
10. Explain Specific Retention?
11. The components of cable tool drilling machine is....?
 a) Swivel socket b) Drill stem
 c) Drill Bit d) all the above
12. The rate of penetration in drilling is more in....?
 a) percussion drilling b) Rotary drilling
 c) Auger drilling d) none of the above
13. Advantages of Cable Tool are?
 a) Low fuel consumption b) Low capital investment
 c) both 1&2 d) none of the above
14. Open wells are of _____ types?
 a) 1 b)3
 c) 2 d)4
15. The most durable drill bit is?
 a) tungsten b) cast-iron
 c) diamond d) none of the above

Q.2 Answer the following questions. (Attempt any three) (15)

- A) Describe about well screens?
- B) Explain turbine pumps and submersible pumps?
- C) Describe various types of problems occurred in state regarding wells?
- D) Explain methods of drilling?

Q.3 A) Briefly Explain various types of wells? (07)

- B) Explain percussion drilling and its advantages? (08)

OR

- B) Write about centrifugal pumps? (08)

Q.4 A) Explain Rotary drilling and compare with percussion drilling? (07)**OR**

- A) Explain surface and subsurface exploitation? (07)

- B) Explain two methods for natural ground water recharge? (08)

- 1) Soil water balance method
- 2) One-dimensional soil water flow model