

**II B. Tech I Semester Regular Examinations, March - 2021**  
**GROUND WATER HYDROLOGY, WELL AND PUMPS**  
(Agricultural Engineering)

Time: 3 hours

Max. Marks: 75

Answer any **FIVE** Questions each Question from each unit  
All Questions carry **Equal** Marks  
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- 1 a) Write a note on status of water resources in India.  
b) Define the terms (i) hydraulic conductivity, (ii) transmissivity and (iii) permeability.

Or

- 2 a) What is groundwater? Explain various types of aquifers.  
b) Write a note on the movement of ground water.
- 3 a) Write a note on design considerations of open wells.  
b) Write a brief note on groundwater exploration.

Or

- 4 a) Mention the different types of screens used in wells.  
b) Define the terms (i) cone of impression, (ii) recovery test and (iii) well efficiency with a neat sketch.
- 5 a) Write a note on drawdown in multiple well systems with a neat sketch.  
b) Write step by step procedure of pumping test.

Or

- 6 a) Define well yield. Mention the factors influencing yield of wells.  
b) Explain the measures adopted to stop sea water intrusion into the aquifers.
- 7 a) Define groundwater potential. What are the methods used to estimate the groundwater potential?  
b) Write a short note on biogas operated water lifts.

Or

- 8 a) Mention some artificial ground water techniques. What are uses of recharging groundwater?  
b) What are the different types of pumps used to lift groundwater?
- 9 a) Define centrifugal pumps. Write the broad classification of commonly used variable pumps.  
b) Explain the procedure for trouble shooting of pumps.

Or

- 10 a) Define the terms (i) horse power, (ii) shaft horse power, (iii) brake horse power and (iv) input horse power and give their formula.  
b) Write a note on economical pipe size selection.