B.Tech. SEM -VII (Civil) 2014 Course (CBCS) : WINTER - 2018

SUBJECT: ELECTIVE – II : GROUND WATER HYDROLOGY

Day :	Monday	**W-2018-2533**	Time : 02.30 PM TO 05.30 PM
Date :	03/12/2018		Max Marks : 60

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labeled diagram **WHEREVER** necessary.
4) Use of non-programmable calculator is **ALLOWED**.
5) Assume suitable data, if necessary.

Q.1 What is aquifer? Write its types and explain them with neat sketch. Describe properties of an aquifer. **(10)**

OR

Define following terms **(10)**

i) Porosity
ii) Specific Yield
iii) Specific retention
iv) Storage Coefficient
v) Permeability

Q.2 Describe permeability and discuss factors affecting the coefficient of permeability of an aquifer **(10)**

OR

What is a flownet? Draw a typical flownet for isotropic aquifer. Discuss the properties of flownet. **(10)**

Q.3 Derive an expression for the steady state discharge of well in a confined aquifer with usual notations. **(10)**

OR

Explain the Chow's method of determining aquifer parameters using the pumping test data. **(10)**

Q.4 Draw a typical tube well and describe all the components of tube well. **(10)**

OR

Compare between open well and tube well. **(10)**

Q.5 What are natural resources of ground water recharge and explain them. **(10)**

OR

What are necessities of ground water recharge? Write the suitability of ground water recharge methods **(10)**

Q.6 Explain ground water quality criteria for domestic and irrigation purpose. **(10)**

OR

What are water quality plots? Describe the Ionic Concentration diagram and Pipers trilinear diagram of water quality maps. **(10)**

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