

Third Semester B. Tech. (Civil Engineering)

Winter – 2017

Course Code: CEU 301

Course Name: Engineering Geology and Hydrology

Time: 2 ½ Hrs.

Max. Marks: 60

Instructions to Candidate

- 1) All questions are compulsory.
- 2) Assume suitable data wherever necessary and clearly state the assumptions made.
- 3) Diagrams/sketches should be given wherever necessary.
- 4) Figures to the right indicate full marks.

1. Describe various hydro-geological conditions which are of primary importance in the selection of a reservoir site. What is silting of reservoir and how can it be checked? 08

2. Define groundwater recharger? Describe briefly significance of groundwater recharge. Explain with neat sketches, the different artificial methods of groundwater recharge. 08

3. a) Explain any three of following: 18

- i) Physical properties of rock forming minerals;
- ii) Classification of sedimentary rock;
- iii) Tunneling in folded and faulted rocks; and
- iv) Rainfall- runoff correlation.

b) Define any four of the following:

08 ✓

- i) Rock cycle;
- ii) Earthquake waves;
- iii) Deccan Basalt;
- iv) Non-conformity; and
- v) Artificial rain.

4. a) Describe with a neat sketch the principal type of folds and their classification. What civil engineering problems are created by the presence of fold? 06 ✓

OR

b) ~~What observations are made during drilling for geological investigation at a proposed dam site?~~ 06

5. a) Explain various forms and types of precipitation. Describe with a neat sketch the principle of working of symon's non recording rain gauge. What are the advantages and disadvantages of symon's non recording rain gauge? 08 ✓

b) Classify and describe the different types of joints 04 ✓

OR

c) Describe the different textures found in igneous rocks. 04