

B.Tech. CIVIL ENGINEERING (BTCLEVI)

Term-End Examination

00054 June, 2017

BICE-015 : WATER RESOURCES ENGINEERING

Time : 3 hours

Maximum Marks : 70

*Note : Attempt any **five** questions. All questions carry equal marks. Use of scientific calculator is permitted. Assume missing data, if any.*

1. (a) Describe the various types of aquifers. 7
(b) Explain the various components of a hydrologic cycle. 7
2. (a) With the help of neat sketches, describe the various types of wells. 10
(b) What is meant by life of a reservoir? 4
3. (a) Describe the different types of dams with the help of neat sketches. 10
(b) Explain the yield of a reservoir. 4
4. (a) Describe the various types of spillways. 10
(b) Explain the necessity of water resources projects. 4

5. (a) Calculate the discharge from the tube-well penetrating a fully confined aquifer. Diameter of well = 30 cm, drawdown = 2 m, effective length of the strainer under above drawdown = 10 m, coefficient of hydraulic conductivity of aquifer = 0.05 cm/sec, radius of zero drawdown = 300 m. 7
- (b) What are canal regulators ? Explain. 7
6. (a) With the help of sketches, describe the various components of a barrage. 7
- (b) Describe the factors to be considered while selecting the site for a reservoir. 7
7. (a) Describe the various cross-drainage works. 7
- (b) Explain with neat sketches, what is meant by diversion headworks. 7