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Total Number of Pages: 2

**B.TECH**  
**PECI5409**

**8<sup>th</sup> Semester Regular / Back Examination 2016-17**

**WATER RESOURCES MANAGEMENT**

**BRANCH: CIVIL**  
**Time: 3 Hours**  
**Max Marks: 70**  
**Q.CODE: Z166**

**Answer Question No.1 which is compulsory and any five from the rest.  
The figures in the right hand margin indicate marks.**

- Q1 Answer the following questions: (2 x 10)**
- a) What are the Priorities for water allocation?
  - b) Name different measures to control soil salinity
  - c) Define coefficient of transmissibility?
  - d) Name different environmental problems related to water.
  - e) What is meant by Trap efficiency of a reservoir
  - f) What are the different methods to control reservoir sedimentation?
  - g) What are the different methods to control water logging?
  - h) Write the rock properties affecting groundwater?
  - i) If the effective size of the particle in the aquifer 0.10 mm, hydraulic gradient 1 in 100, viscosity coefficient is 1.0 and Slichter's constant is 100. Determine the groundwater velocity.
  - j) What are the causes of river pollution?
- Q2 a) Name five important river basin of India and write their approximate runoff potential. (5)**
- b) Describe the Indian scenario of water availability. (5)**
- Q3 a) Describe the salient features of National Water Policy. (6)**
- b) Describe different problems faced in the location of water storage sites (4)**
- Q4 a) What is a siphon spillway? Sketch a saddle siphon spillway and explain the functions of its various component parts. (5)**
- b) Compute the discharge over an ogee spillway with a coefficient of discharge  $C=2.5$  at a head of 4 m. The effective length of the spillway is 100 m. Neglect velocity of approach. (5)**

- Q5** a) Explain the key issues for international sharing of water. (5)  
b) How do you assess the water power potential of a hydro-electric scheme? (5)
- Q6** a) What is conjunctive use of water? What are the benefits of conjunctive use of water? (5)  
b) Explain in brief the Interstate River Water Dispute (IRWD) act. (5)
- Q7** a) What is flood? What are its different types? What is the impact of flood on lives and communities? (5)  
b) Explain in brief the different sources of groundwater pollution. (5)
- Q8** **Write short notes on any two of the followings.** (5 x 2)  
a) Integrated watershed management  
b) Artificial recharge of groundwater  
c) AIBP Programme.  
d) Watershed canal