

B. Tech. Sem – VIII (Civil Engg.) (2014 COURSE) (CBCS) :

SUMMER - 2019

SUBJECT-ELECTIVE-III HYDRAULIC STRUCTURES

Day: Thursday
Date: 30/05/2019

S-2019-2881

Time: 02.30 PM TO 05.30 PM
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Non programmable **CALCULATOR** is allowed.
- 4) Assume suitable data if necessary.

Q.1 Explain the draw a typical layout of diversion head work & explain all the components. (10)

OR

Explain Bligh's creep Theory for design of hydraulic structures on permeable foundation. (10)

Q.2 Explain the various classifications of canals. (10)

OR

Compare Kennedy's theory & Lacey's theory of canal design. (10)

Q.3 What is a canal outlet? What are its requirements? Describe the types of canal outlet. (10)

OR

Design a Sarda type canal fall across a canal for the following data (10)

Full supply discharge $\frac{u/s}{d/s} = \frac{15}{15}$ cumecs

Drop = 1.0 m

Full supply level $\frac{u/s}{d/s} = \frac{101.00}{100.00} m$

Full supply level $\frac{u/s}{d/s} = \frac{1.8}{1.8} m$

Bed width $\frac{u/s}{d/s} = \frac{10}{10} m$

Design the floor on Bligh's theory using coefficient of creep =10, sketch the longitudinal section of fall.

Q.4 What factors will you consider while selecting a suitable type of cross drainage work? (10)

OR

Discuss the methods for the estimation of the design discharge & water way for drainage at aqueduct. (10)

Q.5 Discuss various types of river training works. (10)

OR

Design & draw the plan of the guide banks for bridge an a river having a following data. (10)

Design discharge =80,000 cumecs

High flood level =120.00 m

Low water level =110.00 m

Silt factor = 1.10

Khadir width=4000.00 m

Q.6 Discuss in detail the causes of water logging. (10)

OR

Write preventive measure for water logging. (10)