

M. TECH.-IV (CIVIL-HYDRAULIC ENGINEERING) (CBCS
- 2015 COURSE) : WINTER - 2017

SUBJECT : SELF-STUDY PAPER-II – RIVER ENGINEERING

Day : Saturday
Date : 02/12/2017

W-2017-2844

Time : 11.00 AM TO 02.00 PM
Max. Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Both the sections should be written in **SEPARATE** answer books.
- 3) Figures to the **RIGHT** indicate full marks.
- 4) Draw neat labeled diagrams **WHEREVER** necessary.

- Q.1** a) How are the rivers classified? (05)
b) What are the characteristics of river in each criterion? (05)

OR

- a) Give reasons for development of plan forms of rivers. (05)
b) Compare and contrast meandering and braiding river characteristics. (05)

- Q.2** a) How would you assess whether a river is in equilibrium? (08)
b) State two rivers in your area that are in equilibrium. (02)

OR

- a) State the natural and manmade activities that affect regime. (05)
b) What are their changes in regime under each category? (05)

- Q.3** a) What are the factors causing aggradation in rivers? (05)
b) Explain the ill effects of aggradation in river. Draw neat sketches. (05)

OR

- a) Describe the changes in bed level at confluence of rivers. (05)
b) How can we measure the changes in plan form associated with river bed change. (05)

SECTION-II

- Q.4** a) What are the different river flow control structures? Draw neat sketches. (07)
b) List hydraulic design parameters of any one. (03)

OR

- a) State the different sources for locating intakes. What are the important components of an intake structure? (06)
b) Explain with neat sketch the operation of any one intake. (04)

- Q.5** a) Why is it necessary to provide river training structures? Where are these provided? (06)
b) Draw a typical layout of any training structure and explain the function. (04)

OR

- a) What are different types of diversion structures? (06)
b) Explain the functioning of any one with neat sketch. (04)

- Q.6** a) What criteria are to be satisfied for river navigation? (05)
b) Explain the advantages and disadvantages of river navigation. (05)

OR

- a) State the hydraulic structures associated with river navigation. (03)
b) Describe the functioning of any one with neat sketch. (07)