



(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 100856**

Roll No.

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## B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15  
**RIVER ENGINEERING**

Time : 3 Hours]

[Total Marks : 100

- Note :**
- (1) Attempt **All** Questions as per instructions.
  - (2) Assume missing data suitably, if any.

**1** Attempt any **two** : **10×2=20**

- (a) What are cut-offs? How are they used as river training method ?
- (b) Explain bioengineering methods for stream bank restoration.
- (c) Explain straight river channel and river channel profile.

**2** Answer any **two** : **10×2=20**

- (a) Sketch a neat plan and section of a guide bund. Give salient steps of its design procedure.
- (b) What is stream restoration? Explain stream restoration techniques.

- (c) Design a guide bund for a bridge site with the following hydraulic data of the river :

Maximum discharge = 6000 cumecs,

H.F.L. = 104.00 m, River bed level = 100.00 m

Diameter of bed material = 0. 10 mm.

**3** Answer any **two** : **10×2=20**

- (a) Discuss braiding pattern of a river.
- (b) Explain socio cultural influences of stream restoration.
- (c) Discuss factors affecting type, shape and progress of delta.

**4** Answer any **two** : **10×2=20**

- (a) Explain different steps of natural channel design of a stream to be restored.
- (b) Explain various classification of spurs.
- (c) Explain Shield's tractive force theory in detail.

**5** Answer any **four** : **5×4=20**

- (a) Explain Meandering of a river and its causes.
- (b) Discuss ethics of stream restoration.
- (c) Explain different river training works.
- (d) Classify rivers in flood plain and explain in short.
- (e) Explain in short stability and instability of river.
- (f) Explain Rosgen classification of river.