PAPER ID-420388

Roll No: | | | | | | | | | | | | |

BTECH
(SEM VI) THEORY EXAMINATION 2021-22
RIVER ENGINEERING

Time: 3 Hours   *Total Marks: 100*
Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

1.   Attempt *all* questions in brief.   2*10 = 20

Qno	Questions	CO
(a)	Write about sediment transportation.	1
(b)	List the various methods of river classification	1
(c)	How the rivers are protected from erosion.	2
(d)	Define meander length and sinuosity.	2
(e)	List out the purpose of a groyne.	3
(f)	What do you mean by an alluvial river?	3
(g)	List the various methods of river classification.	4
(h)	What do you mean by time series?	4
(i)	Define Permeable and impermeable spurs.	5
(j)	Define marginal and guide bund.	5

SECTION B

2.   Attempt any *three* of the following: 10*3 = 30

Qno	Questions	CO
(a)	What do you understand by Meandering and explain its causes?	1
(b)	Explain in brief the various parameters responsible for the instability of rivers.	2
(c)	How does stream restoration work influence the social and cultural environment?	3
(d)	Explain the use of Levees for protecting cities from floods.	4
(e)	What are the uses of guide banks? Explain the salient features of guide banks.	5

SECTION C

3.   Attempt any *one* part of the following: 10*1 = 10

Qno	Questions	CO
(a)	Differentiate between the following: (i) Flashy and Virgin rivers (ii) Aggrading and degrading rivers	1
(b)	What do you understand by river morphology? Explain Rosgan classification system of rivers in detail.	1

4.   Attempt any *one* part of the following: 10 *1 = 10

Qno	Questions	CO
(a)	Distinguish between bed load, suspended load and wash load. Explain with neat sketch, the saltation method of bed load transportation.	2
(b)	Explain in detail process of delta formation and measures to control it?	2

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5. **Attempt any *one* part of the following:** 10*1 = 10

Qno	Questions	CO
(a)	Describe various bed forms that occur in alluvial channels.	3
(b)	What do you understand by "river restoration"? Explain the various types of restoration works.	3

6. **Attempt any *one* part of the following:** 10*1 = 10

Qno	Questions	CO
(a)	Write short notes on Discharge measurement techniques in a river.	4
(b)	Outline the basic concept of Bio -engineering Techniques? Explain any two in Detail?	4

7. **Attempt any *one* part of the following:** 10*1 = 10

Qno	Questions	CO
(a)	What term describes the relationship between river channel discharge and channel geometry and velocity? Why does channel bed roughness decrease downstream?	5
(b)	Mention the objectives of river training?List important types of river training works.	5