

7. (a) What are the requirements of any canal outlets ? Discuss various types of canal outlets with the help of sketches. **10**
- (b) Explain A.P.M. outlet with the help of sketch. **10**
8. Differentiate between : **20**
- (a) Aqueduct and Syphon Aqueduct
- (b) Super Passage and Canal Syphon
- (c) Type I and Type II Aqueduct.

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B. Tech. EXAMINATION, Dec. 2018

(Seventh Semester)

(Old Scheme) (Re-appear Only)

(CE)

CE405

IRRIGATION ENGINEERING

Time : 3 Hours]

[Maximum Marks : 100

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt any *Five* questions. Assume any data if missing.

1. (a) What do you understand by total planning concept of any irrigation project ? Explain the factor considered for any irrigation project. **10**
 (b) Explain the terms :
 (i) Flow Irrigation
 (ii) Lift Irrigation
 (iii) Perennial Irrigation
 (iv) Sprinkler Irrigation. **10**
2. (a) What is Canal Lining ? List the various types of lining. Discuss the silent features of cement concrete lining. **10**
 (b) Explain water logging, its effects, causes and remedial measures. **10**
3. (a) What is a Barrage ? How is it different from weir ? Explain various types of barrage in India. **10**
 (b) Write a note on Khosla's theory of design of weir on foundation. **10**

4. (a) How spillway are classified ? Describe various types of spillways. **10**
 (b) What is Stilling Basin ? Describe with sketches different types of stilling basins. **10**
5. (a) Explain canal diversion and its components with the help of neat sketches. **10**
 (b) What is meant by river training ? List various types of objective of river training. Write a note on guide banks used for river training works. **10**
6. (a) With the help of neat skteches explain the working of the following components of weir : silt excluder and fish ladder. **10**
 (b) What is fall or drop ? Write the necessity of falls. Classify various types of falls. **10**