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EKS-345**B.E. VII Semester (CGPA) Civil Engg.
Examination 2017****IRRIGATION ENGINEERING****Paper : CE-705****Time Allowed : Three Hours****Maximum Marks : 60**

- Note :** i) All questions are compulsory.
ii) Assume suitable data, if necessary.

Unit-I**Q.1. Explain the following : (Any Four)**

- i) Diversion head work
- ii) Khosla's method
- iii) Bligh's method
- iv) Sarda type fall
- v) Straight glacis fall

OR

Design a 1.5 metres Sarda type fall for a canal having a discharge of 12 cumecs, with the following data :

Bed level upstream = 103 m

Side slopes of channel = 1 : 1

Bed level downstream = 101.5 m

Full supply level upstream = 104.5 m

Bed width u/s and d/s = 1 m

Soil = Good 10 am

Assume Bligh's coefficient = 6

(2)

Unit-II

- Q.2. a) Differentiate between a distributary head regulator and cross regulator.
b) Describe the various types of cross-drainage works.

OR

Explain the following: (Any Four)

- i) Canal regulation works
- ii) Canal escapes
- iii) Bed bars
- iv) Level crossing
- v) Super passage

Unit-III

- Q.3. a) How do you classify dams according to :
i) their use
ii) their hydraulic design
iii) their materials of construction
b) Write a detailed note on "Estimating the life of a reservoir".

OR

- a) Describe "Reservoir sedimentation and its control".
- b) Discuss the factors affecting the design of an embankment dam.

Unit-IV

- Q.4. a) Explain the elementary profile of a gravity dam.
b) Describe the various joints in a gravity dam.

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OR

- a) Explain the various modes of failure of gravity dams.
- b) Write short notes on :
 - i) Control of cracks in concrete dams
 - ii) Types of galleries in dams

Unit-V

- Q.5.
- a) What is a draft tube? Explain its functions and types.
 - b) What is meant by an "Energy dissipater"? Discuss hydraulic jump.

OR

Write short notes on : (Any Four)

- i) Cavitation
- ii) Flood routing
- iii) Pelton wheel
- iv) Surge tank
- v) Reaction turbine
- vi) Headrace and tailrace

