



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

**PAPER ID : 180851**

Roll No.

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## B. Tech.

(SEM. VIII) THEORY EXAMINATION, 2014-15  
**RESERVOIRS AND FARM POND DESIGN**

Time : 3 Hours]

[Total Marks : 100

**Note :** The question paper is divided into three sections. Attempt each section.

## SECTION A

1 Attempt each short answer type questions :  $2 \times 10 = 20$

- Why is a earthen embankment is required for agriculture?
- Name the remedial measures from soil & water erosion of the earthen embankment.
- What do you understand by grouting?
- Define seepage. Enumerate the favourable conditions for the cause of seepage.

- (e) What do you mean by flow net ? Name any two properties.
- (f) List any four filter materials required for drainage.
- (g) Define drainage. What are the harmful effects?
- (h) Write the location of earthen dam in brief.
- (i) What are the minimum requirements of a dam?
- (j) Differentiate between reservoir and dam.

## **SECTION-B**

2 Attempt any three parts of the following.  $10 \times 3 = 30$

- (a) Discuss the types of reservoir. Describe any one of them.
- (b) Explain the design parameters of an earthen dam.
- (c) Write short note on the following.
  - (i) Seepage pressure
  - (ii) Functions of filter
- (d) How will you estimate the discharge from seepage?
- (e) What are the disadvantages of earthen embankment? Discuss in detail.

## SECTION-C

3 Attempt all parts of the following. **10x5=50**

- (a) What is the hydraulic design of rolled fill dam? Explain.

**OR**

Discuss the homogenous type earthen embankment.

- (b) Show the location of phreatic line by graphical method.

**OR**

What are the methods to control seepage from the dam?

- (c) Discuss the difference between homogenous, zoned and diaphragm type dam.

**OR**

Differentiate between the hydraulic fill and rolled fill dam.

- (d) What techniques are employed in “out flow - inflow” method to control seepage from existing canals?

**OR**

What is a composite earth embankments? Discuss in detail.

- (e) Write short note on any two of the following :
- (i) Over turning of embankment.
  - (ii) Falling head seepage meter
  - (iii) Advantages of lining.
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