Bed width U/S and D/S = 10 m

Assume Biligh's coefficient= 6

Type of soil = good loam

7. With the help of a neat sketch explain the method of drawing top seepage line is a homeogenous dam without any arrangement of drainage. 20

SECTION – D

8. (a) Compute the discharge over an ogee spilway with the coefficient of discharge as 2.5 at the head of 4 m. Effective length of spillway is 100 m Neglect the velocity of approach. 10

(b) Draw a neat self explanatory typical crass section of a gravity dam. 10

9. Name the various elements to be designed for a earthen dam. Explain the method of designing these elements. 20

_____

24514

B. Tech 7th Semester (Civil Engg.) Examination – May, 2018

IRRIGATION ENGG. – II

Paper : CE-407-F

Time : Three Hours]　　　　　　　[Maximum Marks : 100

Note : Attempt *five* questions in all, selecting *one* question from each of the four Section. Question No. **1** is *compulsory*.

1. (i) Give criteria for safe design of earth dam.

(ii) Write down base flood routing equation.

(iii) Factors governing the design of a weir.

(iv) Importance of rock toe and relief well.

(v) Define canal falls. Where these are located ?

(vi) What is the width of launching apron of the guide bank ?

(vii) Exit gradient and its importance.

(viii) The length of water way to design a weir is given by .....

(ix) What is the top width of earthen dam ?

(x) Types of cross drainage works.

SECTION – A

2. What is the hydraulic design of a weir ? How will you design the following components of a weir.   20

(i) Upstrean cut of Floor

(ii) Protect on works

3. The following hydraulic data pertains to a bridge site of a river :   20

(i) Maximum discharge = 6000 cusecs

(ii) Highest Flood level = 106.5 M

(iii) River bed level = 100 m

(iv) Average diameter of river bed material = 0.10 mm

Design Bell Band including launching apron to attain the river. Designed neat sectional view of the band with necessary dimension.

SECTION – B

4. Design a veritical drop weir on the basis of blingh's theory with the help of given data :   20

Maximum flood discharge = 2500 cusecs

HFL before construction of weir = 290 M

River bed level = 288 M

Allowable flux = 1.5 m

Coefficent of creep = 12

Assume any other data of neessary.

5. Derive the expression for bed width (Bx) for any distances from the flumed section of an

(i) aquadiet

(ii) Syphon aquadiet by Mitra's Hyperbolic transition method.   20

SECTION – C

6. Design a 1.8 m sharda Fall for a canal having a discharge of 15 cumes with the help of following data :

Bed level = 105 m

Side slope = 1 : 1 m

Bed level Down strean = 105.5 M