

KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl.Engg) 2012 Admission

VIIth Semester Final Examination-January -2016

Cat. No: Iden 4108

Title: Drainage Engineering (2+1)

Marks: 80.00

Time: 3 hours

I Fill in the blanks:

(10 x 1=10)

1. The runoff for open ditch design may be expressed as
2. is removal of excess water below ground surface
3. Inspection of title lines is carried out using
4. The effect of hydraulic pressure of water tables can be studied using
5. formula is used in determining the size of title drains

State whether the following statements are True or False

6. In open ditches, weeds come up very quickly
7. Undesirable salts are not removed from rootzone in subsurface drainage
8. Herringbone is type of tile drainage layout
9. Glover Dumn equation is used to determine the capacity of title drain under unsteady state condition
10. Mole drainage is a semi-permanent method of subsurface drainage

II Answer any ten questions

(10 x 3=30)

1. Define drainage coefficient
2. What are the different types of drainage?
3. What is the purpose of blind inlet in tile drainage?
4. What are the open drains?
5. Write De.Zeeuw-Hellinga Equation
6. What is the need for surface drainage?
7. What is the vertical drainage?
8. What are the different types of tile drainage?
9. List the conditions required for open ditches?
10. Compare between steady state and unsteady state conditions in drainage system
11. Write short note on observation wells
12. What is hydraulic gradient?

III Answer any Six questions

(6 x 5=30)

1. What are the benefits of drainage?
2. What are the soil properties in relation to drainage?

3. Write short note on manholes and sedimentation basins
4. What are the different criteria required for design of tile drain?
5. Investigations of subsurface drainage
6. What are the factors affecting drainage coefficient?
7. What are the different methods of surface drainage?
8. Mole drainage

III Answer any one question

(1 x 10=10)

1. Elaborately discuss the Design of surface drainage system
2. Explain the procedure of drainage planning and the investigations required
