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Total No. of Printed Pages: [01]

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B. Sc. Agriculture (Semester – 3rd)
FUNDAMENTAL OF SOIL AND WATER CONSERVATION ENGINEERING
Subject Code: BAGE1-326
Paper ID: [130126]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a. Forms of water erosion.
- b. Differentiate between direct ranging and indirect ranging
- c. Sheet erosion.
- d. Differentiate between centrifugal pump and submersible pumps
- e. Survey stations.
- f. Mechanics of wind erosion.
- g. Leveling.
- h. Advantages of Drip irrigation.
- i. Contouring.
- j. Differentiate between Engineer's chain and Gunter's chain.

Section – B

(5 marks each)

- Q2. What is soil erosion? Explain its causes and agents of soil erosion?
- Q3. Discuss about gully classification and its permanent and temporary control measures?
- Q4. Discuss the classification of irrigation projects? Differentiate between flow irrigation and lift irrigation?
- Q5. What are the precautions to be taken while installing wire for measurement of irrigation water?
- Q6. Define the followings: Back sight, Intermediate sight, Foresight, Change point, Height of Instrument.

Section – C

(10 marks each)

- Q7. What are the different agronomic and engineering soil and water conservation measures? Discuss various agronomic and engineering measures in detail?
- Q8. What is drip irrigation system? What are the main components of drip irrigation system? Write its advantages and disadvantages. Draw a labeled layout diagram of drip irrigation system?
- Q9. The following consecutive readings were taken with a level and 4.0m Staff on a continuously sloping ground at a common interval of 30 m –0.780, 1.535, 1.955, 2.430, 2.985, 3.380, 1.250, 1.860, 2.365, 3.540, 0.935, 1.145, 1.630 and 2.645. The RL of first point A was 100.80 - m. Rule out a page of level book & enter above readings. Calculate the RL of all the points by Rise & Fall Method. Also calculate the gradient of the line joining the first & last point.