

# 22701

**12425**

**03 Hours / 70 Marks**

Seat No. 

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- Instructions* –
- (1) All Questions are *Compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answer with neat sketches wherever necessary.
  - (4) Assume suitable data, if necessary.
  - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.
  - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. **Attempt any FIVE of the following:** **10**
  - a) Give the structural classification of soil.
  - b) Define soil texture.
  - c) List physical properties of soil.
  - d) List four main components of the hydrologic cycle.
  - e) Enlist any four causes of water erosion.
  - f) List different principles of erosion control.
  - g) List the components of a chute spillway.
  
2. **Attempt any THREE of the following:** **12**
  - a) Differentiate between recording and non recording types of rain guage.
  - b) Discuss various factors affecting runoff along with its measurement.
  - c) Explain any four problems of soil erosion.
  - d) Differentiate between contour bunding and graded bunding.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- a) Give the classification of water erosion and explain any one.
  - b) Explain temporary and permanent gully control structures.
  - c) Differentiate between Evaporation and Transpiration.
  - d) Explain strip cropping with a suitable example.
- 4. Attempt any THREE of the following:** **12**
- a) Explain in detail infiltration and interception.
  - b) Explain splash and stream bank erosion in detail.
  - c) Explain bunds. Explain graded bunds.
  - d) Explain bench terracing along with its advantages.
  - e) Explain farm pond in detail.
- 5. Attempt any TWO of the following:** **12**
- a) Give detailed classification of terracing.
  - b) Explain the term Contour Trenches with its benefits.
  - c) Explain in detail any two techniques involved in ground water recharge.
- 6. Attempt any TWO of the following:** **12**
- a) Explain the various components and working principle of drop inlet spillway.
  - b) List different rain water harvesting techniques. Explain any one in detail with its uses.
  - c) Explain design of grassed waterways in detail.
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