

22701

23124

3 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 answers with neat sketches wherever necessary.
(4) Figures to the right indicate full marks.
(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following :** **10**
- Enlist the four components of soil.
 - Define soil profile.
 - Enumerate any two chemical properties of soil.
 - Mention any four forms of precipitation.
 - Define soil erosion.
 - Enlist any four vegetative measures for erosion control.
 - Define water harvesting.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Draw a neat sketch of Hydrologic cycle and label the following processes.
 - i) Precipitation
 - ii) Evaporation
 - iii) Interception
 - iv) Infiltration
 - v) Runoff
 - vi) Evapotranspiration
 - b) Enlist any four characteristics of runoff affecting factor and explain any one in details.
 - c) Describe types of formation of precipitation.
 - d) Enumerate the types of rain gauge and explain any one.
- 3. Attempt any THREE of the following :** **12**
- a) Explain the types of water erosion in details.
 - b) Define gully erosion and explain various stages of gully development.
 - c) Enumerate the types of gully and explain the gully according to its shape.
 - d) Explain in details the temporary and permanent gully control structure.
- 4. Attempt any THREE of the following :** **12**
- a) Explain any four principle of erosion control.
 - b) Enlist Agronomic and field practice to control erosion and explain tillage in details.
 - c) Enlist the types of strip cropping and explain the buffer strip cropping in details.
 - d) Differentiate between contour bunding and graded bunding.
 - e) Explain in details the water harvesting technologies.

- 5. Attempt any TWO of the following :** **12**
- a) Differentiate between level terrace and graded broad base terrace.
 - b) Write notes on bench terrace w.r.t.
 - i) Design
 - ii) Layout
 - iii) Planning
 - c) Classify and explain in details the grassed waterways according to its various cross-sections.
- 6. Attempt any TWO of the following :** **12**
- a) Explain in details the concept of ground water recharge.
 - b) Enumerate the three types of farmpond and explain all in details.
 - c) Explain in details the drop inlet spillway with neat sketch diagram.
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