

# 312340

**12526**

**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**
- a) List any four branches of agriculture.
  - b) Define soil profile.
  - c) List any four types of soil found in India.
  - d) Name the major components of soil texture.
  - e) Define primary tillage.
  - f) Name the three major crop seasons in India.
  - g) Define Agricultural Engineering.
- 2. Attempt any THREE of the following :** **12**
- a) Differentiate between agronomy and horticulture.
  - b) Suggest a low-cost method to improve crop yield in rural farming. Justify.
  - c) Explain any four physical properties of soil.
  - d) Explain the effect of soil pH and organic matter on crop production.

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- 3. Attempt any THREE of the following : 12**
- a) Suggest a soil type suitable for rice-cultivation and justify your answer.
  - b) Describe the scope of agricultural engineering in modern farming.
  - c) Explain the role of irrigation and drainage engineering in agriculture.
  - d) Summarize the importance of agro-based industries in rural development.
- 4. Attempt any THREE of the following : 12**
- a) Classify various branches of agriculture and their roles.
  - b) Differentiate between black soil and Laterite soil.
  - c) Write the advantages of SRT (Saguna Rice Technique) over traditional tillage.
  - d) Explain the difference between mono-cropping and mixed cropping with examples.
  - e) Differentiate between soil conservation and water conservation techniques.
- 5. Attempt any TWO of the following : 12**
- a) Suggest a suitable cropping system for black soil in semi-arid regions. Justify.
  - b) Differentiate between relay cropping and sequential cropping.
  - c) Summarize the advantages of inter-cropping in sustainable farming.
- 6. Attempt any TWO of the following : 12**
- a) Evaluate the contribution of zero tillage to sustainable agriculture.
  - b) Describe the difference between primary and secondary tillage with examples.
  - c) Differentiate between minimum tillage and zero tillage.
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