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12425

03 Hours / 70 Marks

Seat No. 

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Illustrate your answers with neat sketches wherever necessary.  
(3) Figures to the right indicate full marks.  
(4) Assume suitable data, if necessary.  
(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) Enlist any four Agriculture branches.
  - b) Define soil structure.
  - c) Define soil profile.
  - d) Define Agricultural Engineering.
  - e) Write any two objectives of tillage.
  - f) Define cropping system.
  - g) Enumerate four branches of Agricultural Engineering.
2. Attempt any THREE of the following : 12
- a) Explain current scenario of Indian agriculture.
  - b) Define agriculture science and explain agriculture heritage.
  - c) Explain the soil forming process in details.
  - d) Explain soil taxonomy and particle distribution.

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- 3. Attempt any THREE of the following :** **12**
- a) Enlist the properties of soil and explain biological properties of soil.
  - b) State any four engineering applications in agriculture.
  - c) Explain irrigation and drainage engineering.
  - d) Define agricultural engineering and state its two importance.
- 4. Attempt any THREE of the following :** **12**
- a) Explain Horticulture in details.
  - b) Draw and explain USDA soil textural triangle.
  - c) Explain modern concept of tillage.
  - d) Differentiate monocropping and mixed cropping.
  - e) Explain food processing and technology.
- 5. Attempt any TWO of the following :** **12**
- a) Enlist various cropping systems of India and explain sequential and Ratoon cropping system in details.
  - b) Explain popular cropping patterns in Indian agriculture.
  - c) Classify crops based on season, soil and weather.
- 6. Attempt any TWO of the following :** **12**
- a) Differentiate between primary tillage and secondary tillage.
  - b) Explain the concept of SRT (Sagana Rice Technique)
  - c) Write notes on tillage Highlighting its –
    - i) Objective
    - ii) Factors affecting on tillage
    - iii) Types of tillage.
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