

22599

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 answers with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Assume suitable data, if necessary.  
(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) State the three essential elements for remote sensing.
  - b) State the objective of agricultural drone.
  - c) State the principle of vertical farming.
  - d) Why greenhouse is important in protected cultivation ?
  - e) State the principle of smart agriculture system.
  - f) State the use of IOT in agriculture.
  - g) Explain IOT system.
2. **Attempt any THREE of the following :** **12**
- a) Describe remote sensing with its advantages.
  - b) With the neat labelled diagram, explain the working of remote sensing.
  - c) State various application of remote sensing.
  - d) Define drone State the role of drone in farming.

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- 3. Attempt any THREE of the following :** **12**
- a) Enlist different application of drones used in agriculture.
  - b) Explain in details basic components of drone.
  - c) Explain major challenges in adopting vertical farming.
  - d) Define vertical farming. Enlist the significance of vertical farming.
- 4. Attempt any THREE of the following :** **12**
- a) Explain protected cultivation and state its importance.
  - b) Enlist different crops, which are grown under protected cultivation viz. flowers, vegetables, fruits etc.
  - c) State the limitations and advantages of smartphone used in agriculture.
  - d) Enlist various application of smartphone used for agriculture.
  - e) Define sensor Explain potential and challenges of IOT in Agriculture.
- 5. Attempt any TWO of the following :** **12**
- a) Define GIS. Enlist various application of GIS in agriculture.
  - b) What are the ethics and regulations of drone use in India ?
  - c) Write short note on :
    - i) Hydroponic farming
    - ii) Aeroponics farming
- 6. Attempt any TWO of the following :** **12**
- a) Explain in details, how soil preparation is done in protected farming system ?
  - b) Which are the methods of data extraction. How smartphone apps helps farmer in agriculture sector.
  - c) Enlist various applications of Tag things and thinking things.
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