12526

3 Hours / 70 Marks   Seat No. ⬜⬜⬜⬜⬜⬜⬜⬜

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) Define Remote sensing.

b) State any two advantages of GIS in agriculture.

c) List any four application of drones in agriculture.

d) Define vertical farming.

e) State any two cladding material used in protected cultivation.

f) Identify any two smartphone sensors useful in agriculture.

g) Mention any two challenges in the design of agricultural mobile applications.

2.   **Attempt any THREE of the following :**   **12**

a) Explain the process of data acquisition in remote sensing.

b) Describe soil and field analysis using drones.

c) Discuss hydroponics with advantages and limitations.

d) Summarize importance and scope of protected cultivation.

Marks

3. **Attempt any THREE of the following :** 12

    a) Enlist advantages and limitations of remote sensing.

    b) Describe the growing medium used in vertical farming.

    c) Explain environment control methods in protected cultivation.

    d) Discuss the role of farm management applications in agriculture.

4. **Attempt any THREE of the following :** 12

    a) Describe types of benches and containers used in protected cultivation.

    b) Explain electrical conductivity and pH in vertical farming.

    c) Discuss advantages of smartphone applications in agriculture.

    d) Explain data sources of systematic review method.

    e) Analyse various sensors used in smart-phones and their applications in agriculture.

5. **Attempt any TWO of the following :** 12

    a) Explain applications of GIS in agriculture with examples.

    b) Demonstrate irrigation monitoring and planning using drones.

    c) Illustrate benefits and constraints of using drones in agriculture.

6. **Attempt any TWO of the following :** 12

    a) Explain components of GIS in details.

    b) Illustrate aeroponics technique in vertical farming with diagram.

    c) Explain off-season production of vegetables under protected cultivation.

————