# 22701

**24225**

**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 answer 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)  List different factor affecting soil structure.

b)  List any four properties of soil.

c)  Define soil texture.

d)  Define Hyrology.

e)  List the problems of soil erosion.

f)  Define Graded bunding.

g)  State importance of ground water recharge.

**Marks**

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

a) Explain hydrology cycle with neat sketch.

b) Explain working principle of rain guage.

c) List and explain causes of water erosion.

d) Explain any two principles of soil erosion.

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

a) Explain sheet and stream bank erosion in detail.

b) Describe temporary and permanent gully control structures.

c) Explain Evapotranspiration in detail.

d) Explain the function of tillage.

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

a) Differentiate between chute spillway and drop spillway.

b) Explain gully erosion along with various stages of gully development.

c) Explain contour Ploughing with its benefits.

d) Differentiate between contour bunding and graded bunding.

e) Describe any four factors affecting the runoff.

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

a) Explain the term terracing and give its importance.

b) Explain the importance and design of grassed waterways.

c) List different rain water harvesting techniques. Explain any one in detail with its uses.

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

a) State the various components of drop spillway. Describe its advantages and limitations.

b) Explain two types of farm pond.

c) Explain the layout procedure of bench terraces.

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