

315303

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 hydrological cycle.
 - b) List different types of aquifers.
 - c) State any two factors affecting ground-water movement.
 - d) Name methods of artificial recharge of groundwater.
 - e) List types of wells used in irrigation.
 - f) State any two methods of drilling wells.
 - g) Name any two types of pumps used in irrigation.
- 2. Attempt any THREE of the following :** **12**
- a) Explain occurrence and movement of groundwater with neat sketch.
 - b) Classify aquifers and describe each type.
 - c) Interpret groundwater quality parameters for irrigation suitability.
 - d) Design a schematic layout for the installation of a well screen in irrigation well.

P.T.O.

3. Attempt any THREE of the following : 12
- a) Classify wells used for irrigation and explain any two.
 - b) Explain groundwater exploration techniques.
 - c) Summarize steps in design and construction of open wells.
 - d) Describe bore well construction procedure with diagram.
4. Attempt any THREE of the following : 12
- a) Explain methods of drilling of wells.
 - b) Enlist various equipment used for construction of wells in details.
 - c) Explain concept of gravel pack and its importance.
 - d) Describe installation of well screen with diagram.
 - e) Explain selection criteria for well drilling method.
5. Attempt any TWO of the following : 12
- a) Describe the functions of well screens in irrigation wells.
 - b) Describe construction and working of hydraulic ram pump.
 - c) Explain installation and troubleshooting of water lifting devices.
6. Attempt any TWO of the following : 12
- a) Describe the working principle of a centrifugal pump with neat sketch.
 - b) Explain working of deep well turbine pump with neat sketch.
 - c) Distinguish between gravel pack and filter pack in well construction.
-