

Seat
No.

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मुद्रा- 013

Irrigation Water Distribution Systems (1040)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. Solve **any five** questions.

1. a) How are the Irrigation systems classified in India ? Which class has the largest net area under irrigation ? Discuss. 10
b) Briefly describe the land utilization pattern of India. 10
2. a) Discuss the advantages of using pre-fabricated RCC canallets for canal minors, Courses and field channels. 10
b) What are the common types of drop structures used in on-farm water distribution? What is the specific situation under which each type is particularly adopted ? 10
3. Discuss the basic factors influencing the design of an underground pipeline irrigation system. What are the common troubles observed in the functioning of underground pipeline system ? How they are over come ? 20
4. a) Discuss the distinct advantages of sprinkler irrigation over other methods of irrigation water application. 10
b) Discuss the basis for the proper orientation of mainline and lateral line in a sprinkler system to obtain a reasonable degree of Uniformity in the discharge of each sprinkler. 10
5. a) Discuss the specific advantages of drip irrigation over sprinkler irrigation. 10
b) Explain the drip irrigation system also explain time-based automation in drip irrigations system. 10

6. Discuss the main causes of failure of weirs founded on previous foundation. Also discuss the important theories which have been put forward for designing such weirs to avoid this failure due to the above causes. **20**
7. Discuss briefly the components of various types of falls with neat sketches. Also discuss the suitability of each type. **20**
8. Write short note on following. **(All)** **5 x 4 = 20**
- i) Canal losses.
 - ii) Standing wave flume.
 - iii) Gibb's rigid module.
 - iv) Dyke.
