



REGISTRATION NUMBER

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SRINIX COLLEGE OF ENGINEERING

1st INTERNAL EXAMINATION-2021

Subject- **Hydrology & IE**

Semester-6TH

Branch-CIVIL

Full Mark-30

ANSWER ANY FIVE QUESTIONS (PART-A)

[2×5]

- 1) (a) Define flow irrigation.
(b) Write down the formula to calculate SAR.
(c) Define duty.
(d) Define silt passage.
(e) Define piping.
(f) Draw the diagram of siphon aqueduct.
(g) Define consumptive use

ANSWER ANY TWO QUESTIONS (PART-B)

[5×2]

- 2) What is irrigation efficiency? Define different efficiencies of irrigation water.
- 3) Explain different type of canal alignment.
- 4) The culturable command area of a water course is 1200 ha. Intensities of sugarcane and wheat crops are 40 % respectively. The duties for the crops at the head of the water course are 730 ha/cumec & 1800 ha/cumec respectively.
Find
a) The discharge required at the head of the water course
b) Determine the design discharge at the outlet assuming a time factor equal to 0.8.

ANSWER ANY ONE QUESTION (PART-C)

[10×1]

- 5) A stream of 130 litres per second was delivered from a channel and 100 lit per second were delivered to the field. An area of 1.6 ha was irrigated in 8 hrs. The depth of root zone was 1.7m. The runoff loss in the field was 420 cubic m. The depth of water penetration varied linearly from 1.7m at the head end. Available moisture holding capacity of the soil is 20 cm per meter depth of soil. It is required to determine the water conveyance efficiency, water application efficiency, water storage efficiency and water distribution efficiency. Irrigation was started at a moisture level of 50% of the available moisture.
- 6) Explain all the components of cross drainage work with layout.