



12. (a) Outline briefly the concept of ground water budgeting and its importance in the determination of the safe yield from a basin.

Or

- (b) What are the quality criteria for irrigation water? Show the relationship between the different parameters. Classify the irrigation water based on various parameters.
13. (a) What is meant by transpiration by plants? Do you consider it an evil as it causes water loss from the soil and plants? What does transpiration coefficient means?

Or

- (b) Suggest a method for estimating the consumptive use of crops over a large area. Classify the consumption use of water by crop based on its estimation during specific periods.
14. (a) What are cross drainage work? What is necessity of such a work in a canal project, and how does this necessity is fulfilled by such water?

Or

- (b) List the different types of canal lining in common use. Draw a neat sketch of a typical cross section of a canal carrying a discharge of  $60 \text{ m}^3/\text{sec}$  and lined with brick in cement motor. Mark the salient features on the sketch.
15. (a) What is tank irrigation? Differentiate between isolated tanks and Group tanks. How can compute the storage capacity of an irrigation tank?

Or

- (b) What is participating irrigation management? Give a case study of the above type of management and explain.