

## B.Sc Sem.-5 Examination

SE 305

Geology

Time : 2-30 Hours]

December-2024

[Max. Marks : 70

**Instructions:** (i) Draw neat diagrams whenever necessary.  
(ii) Write proper answer number.

Q-1. Describe types of permeability and their values in different rock types. (14)

OR

- Q-1. (a) General validity of Darcy's law. (07)  
(b) Subsurface classification of groundwater. (07)

Q-2. Write an explanatory note on watershed management categories. (14)

OR

- Q-2. (a) Use of remote sensing in hydrology. (07)  
(b) Evaluation of topographical and geological formations for groundwater studies. (07)

Q-3. Write note on use of metamorphic rocks as building stones with examples. (14)

OR

- Q-3. (a) Foundation design. (07)  
(b) Industrial foundations. (07)

Q-4. Explain dams built on different types of rocks with Indian examples. (14)

OR

- Q-4. (a) Significance of geology in reservoirs. (07)  
(b) Engineering aspects of Sardar Sarovar dam site. (07)

Q-5. Attempt any seven questions out of twelve. (14)

- (i) Define specific retention and specific yield.
- (ii) Draw a labelled sketch of typical artesian condition.
- (iii) Define perched aquifer and give at least one example.
- (iv) Name the aquiclude and aquifuge formation of Gujarat.
- (v) State at least two uses of watershed management.
- (vi) What are aerial photos? Mention its uses.
- (vii) State the types of loads exerting on building.
- (viii) Name the types of individual foundations.
- (ix) Which building stones is widely used in temples of south India and Gujarat?
- (x) Which type of dam represented by Bhakra Nangal and Ukai?
- (xi) Define barrage and reservoir.
- (xii) Define upstream and downstream of a dam with example.