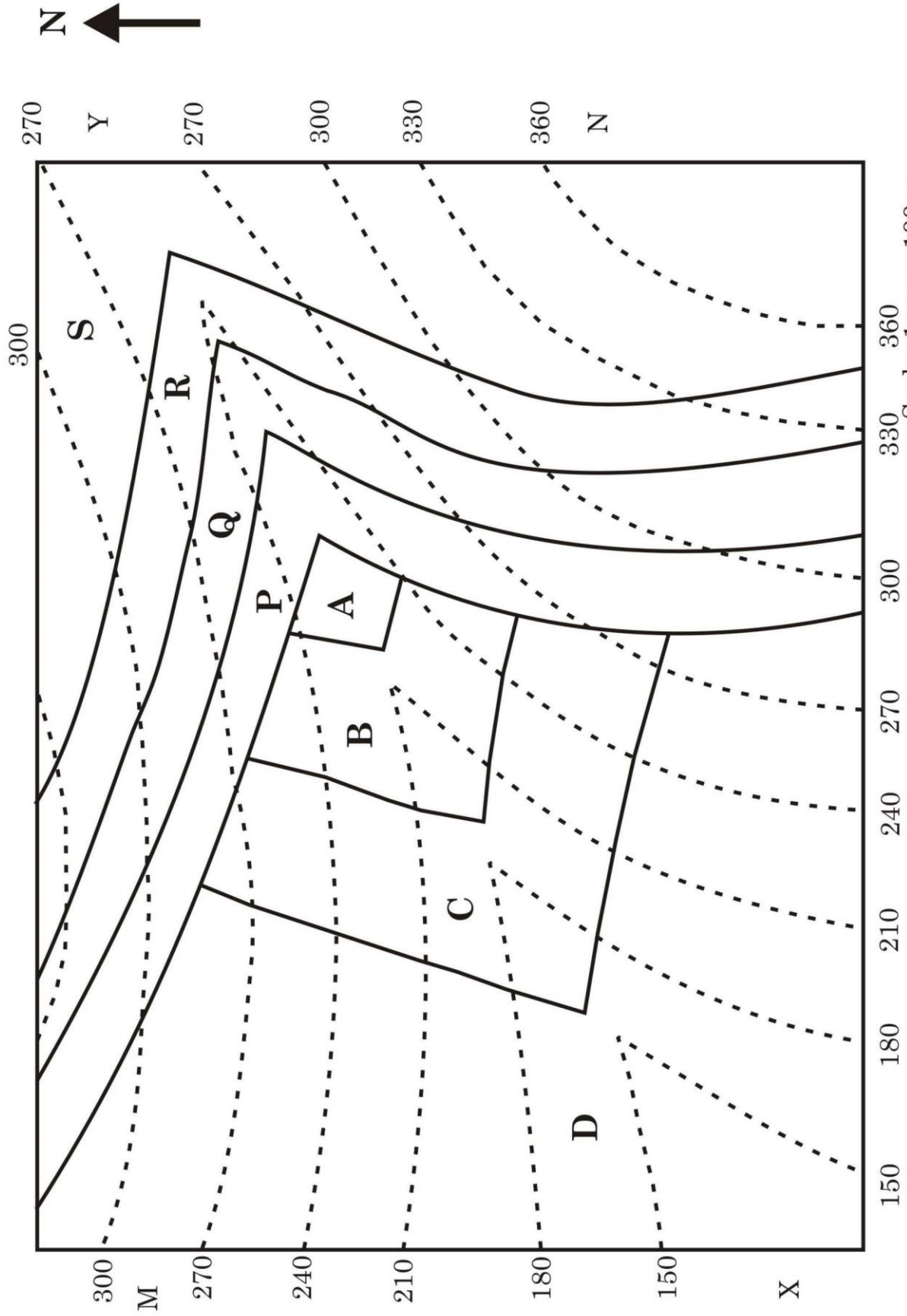


BE Semester- V (Civil) Question Bank

(Geo-techniques and applied geology)

All questions carry equal marks (10 marks)

Q.1	Define porosity and permeability and Describe zonal distribution of groundwater.
Q.2	Define aquifer, aquiclude, aquifuge and aquitard with suitable examples and discuss the effects of ground water at construction site.
Q.3	Describe internal causes of landslide and discuss elaborately role of water in landslide.
Q.4	Discuss in detail techniques for landside prevention.
Q.5	Describe external (morphological) causes of landslide and discuss elaborately nature of slope and angle of repose.
Q.6	Classify landslides based on type of material as well as type of movement involved.
Q.7	Explain landslide mitigation and describe different technological tools available for the purpose.
Q.8	Explain geological aspects to be studied for selection of tunnel site and describe merits and demerits if tunnel is passing through sedimentary rocks.
Q.9	What are the objectives of geological exploration before tunneling? Discuss merits and demerits if tunnel is passing through faulted rocks.
Q.10	Explain in detail how geological structures create complications in tunnel construction.
Q.11	Discuss in detail merits and demerits if tunnel is passing through folded rocks.
Q.12	Discuss the stability of a dam proposed on beds dipping downstream. Also discuss objectives of geological exploration before dam construction
Q.13	Discuss in detail merits and demerits associated with dam construction in folded rocks.
Q.14	Explain geological aspects to be studied for dam site selection and discuss hazard associated with dam construction in faulted rocks.
Q.15	What are the objectives of geological exploration before dam construction? Discuss merits and demerits if dam is proposed on sedimentary rocks.
Q.16	Describe in detail electrical and seismic methods of geophysical exploration.
Q.17	Depict different portions and processes of a typical landslide with neat diagram and define each of them.
Q.18	Discuss stability of slope if road construction is done cutting across the slope also describe different steps to stabilise slope in such instances.
Q.19	(i) A sandstone bed is dipping 15° towards west on slopping ground. The slope of ground is 15° towards east. The width of the outcrop is 100 m. Find out the true thickness of the bed. (Scale 1 cm = 25 m). (ii) In an underground mine a 2 m thick coal seam dips at the rate of 1:6 towards south. For mining an inclined shaft (dimension 2 m \times 2 m) is made within coal seam in $S60^\circ W$ direction. What will be the slope of the shaft?
Q.20	Draw the typical section of a given map along X-Y line and find the structural features if any and explain topography, geology, geological structure and geological history in detail.



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