SEAT No. :

PB3605

[Total No. of Pages :3]

[6261]-10

S.E. (Civil Engg.)
ENGINEERING GEOLOGY
(2019 Pattern) (Semester-III) (207009)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:
   1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*
   2) *Figures to the right indicates full marks.*
   3) *Neat diagrams must be drawn wherever necessary.*

Q1) a)   Define fold and Describe types of folds.   **[6]**

   b)   Explain various concordant and discordant body of igneous intrusion.**[6]**

   c)   Perpendicular distance between any two successive strike line is 4.5cm, scale of the map is 1cm = 100m and contour interval is 50m. Calculate amount of dip (True Dip)   **[5]**

OR

Q2) a)   Explain with sketch disconformity, angular unconformity and non-conformity.   **[6]**

   b)   Define fault and explain the significance of fault in Civil Engineering. **[6]**

   c)   Perpendicular distance between any two successive strike line is 3.0cm, scale of the map is 1cm = 100m and contour interval is 30m. Calculate amount of dip (True Dip)   **[5]**

Q3) a) Explain importance of preliminary geological explorations in civil engineering. **[6]**

b) Define Remote Sensing? Explain it's applications in civil engineering. **[6]**

c) Calculate RQD recovery and Core recovery from following table. **[6]**

Run in m	Piece No.	Length in cm	Nature of fracture
3 - 6 m	1	12	J
	2	10	J
	3	70	M
	4	55	M
	5	50	M
	6	13	J
	7	50	J
6 - 9 m	8	70	M
	9	80	M
	10	90	M
	11	10	M

OR

Q4) a) Discuss in detail core drilling method of subsurface geological exploration with its significance. **[6]**

b) Describe various applications of GIS in civil engineering. **[6]**

c) Calculate RQD and core recovery form following table. **[6]**

Run in m	Piece No.	Length in cm	Nature of fracture
0 - 3 m	1	10	J
	2	12	J
	3	50	M
	4	56	M
	5	60	M
	6	13	J
	7	50	J
	8	09	J
	9	06	J
3 - 6 m	10	60	M
	11	80	M
	12	10	M
	13	10	M

Q5) a) Explain significance of dipping strata in site selection for construction of dam. **[6]**

b) Explain influence of geological conditions on the choice and type of dam. **[6]**

c) A site is proposed for excavation of tunnel along A-B and M-N, passing through axial and limb region of fold respectively. Justify the suitability of tunnel is such conditions. **[5]**

OR

Q6) a) Explain Preliminary Geological Investigations carried out for Tunneling.**[6]**

b) Discuss on unfavorable geological conditions for reservoir area of dam.**[6]**

c) Discuss on tunnel excavated through faulted area. **[5]**

Q7) a) Describe in brief the various preventive measures against landslides. **[6]**

b) Describe requirements of good building stone. **[6]**

c) Define aquifers. Explain in brief the types of aquifers. **[6]**

OR

Q8) a) Explain geological conditions favourable for natural springs and artesian wells. **[6]**

b) Define earthquake and Describe the causes of earthquake. **[6]**

c) Explain in brief the geological work done by groundwater. **[6]**

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