

Total No. of Questions : 8]

SEAT No. :

PB3605

[6261]-10

[Total No. of Pages :3

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]**

P.T.O.

- Q3)** a) Explain importance of preliminary geological explorations in civil engineering. [6]
 b) Define Remote Sensing? Explain its 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 from 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 in 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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