

Total No. of Questions : 8]

SEAT No. :

PD-4046

[Total No. of Pages : 3

[6402]-5

S.E. (Civil Engg.)

ENGINEERING GEOLOGY

(2019 Pattern) (Semester - III) (207009)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates :

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 and Q.7 or Q.8.
- 2) Figures to the right indicate full marks.
- 3) Neat diagrams should be drawn wherever necessary.

- Q1) a) Describe various types of concordant and discordant igneous intrusions. [6]
- b) Define fold and explain any three types of folds. [6]
- c) Perpendicular distance between any two successive strike line is 3.0 cm, scale of the map is 1cm = 100m and contour interval is 30m. Calculate amount of dip (True Dip). [5]

OR

- Q2) a) What is mountain building process? Describe types of mountains. [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 50m. Calculate amount of dip (True Dip). [5]
- Q3) a) Explain how GIS is an important tool for civil engineers. [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
0-3 m	1	20	J
	2	15	J
	3	40	M
	4	50	M
	5	60	M
	6	13	J
	7	50	J
3-6 m	8	60	M
	9	80	M
	10	09	M
	11	10	M

OR

- Q4)** a) What is GIS? Explain components of GIS. [6]
 b) Explain methods of subsurface investigation. [6]
 c) Calculate RQD recovery and Core recovery from following table. [6]

Run in m	Piece No.	Length in cm	Nature of fracture
0-3 m	1	16	J
	2	12	J
	3	60	M
	4	50	M
	5	30	M
	6	13	J
	7	9	J
	8	6	J
	9	8	J
3-6 m	10	71	M
	11	82	M
	12	9	M

- Q5)** a) Explain Preliminary Geological Investigations carried out for Tunneling. [6]
 b) Explain tunneling conditions in Deccan trap region. [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) Discuss on the dam located in folded geological structure. [6]
 b) Explain with appropriate example the feasibility of dam alignment which is crossing DYKE. [6]
 c) What are the geological requirements for the foundation of dam? [5]

- Q7)** a) What is landslide? Describe in brief the various types of landslides. [6]
 b) Discuss engineering properties of building stones. [6]
 c) Define aquifers. Explain in brief the types of aquifers. [6]

OR

- Q8)** a) Explain geological conditions favorable for natural springs and artesian wells. [6]
- b) What are the causes of an earthquakes. [6]
- c) Explain in brief the geological work done by groundwater. [6]

