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.7or 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. Justifg the suitability of tunnel is 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]**