

Total No. of Questions : 8]

SEAT No. :

PC2786

[6352]-10

[Total No. of Pages : 3

S.E. (Civil)

ENGINEERING GEOLOGY

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

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams should be drawn wherever necessary.*

- Q1)** a) Explain parts of fold with neat sketch. Add a note on anticline and syncline. [6]
- b) Explain with sketch angular unconformity and non-conformity. [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 fault ? Describe normal and reverse fault with neat sketch. [6]
- b) Describe various types of igneous intrusions. [6]
- c) Perpendicular distance between any two successive strike line is 5.5 cm, scale of the map is 1cm = 100m and contour interval is 50m. Calculate amount of dip (True Dip) [5]

- Q3)** a) Explain applications of remote sensing in civil engineering. [6]
- b) Explain how GIS is an important tool for civil engineers. [6]

P.T.O.

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

Run in m	Piece No.	Length in cm	Nature of fracture
3-6m	1	12	J
	2	10	J
	3	14	M
	4	55	M
	5	50	M
	6	13	J
6-9m	07	50	M
	08	60	M
	09	90	M
	10	08	M

OR

- Q4)** a) Discuss in detail core drilling method of subsurface geological exploration with its significance. [6]
- b) What is remote sensing? Explain its importance in civil engineering field. [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	15	J
	2	13	J
	3	60	M
	4	55	M
	5	50	M
	6	13	J
	7	50	J
	8	10	J
	9	10	J
3-6 m	10	60	M
	11	80	M
	12	09	M
	13	10	M

- Q5)** a) Discuss on favorable geological conditions for reservoir area of dam. [6]
b) Explain geological investigations required to select site for tunneling. [6]
c) What are the geological requirements for the foundation of dam? [5]

OR

- Q6)** a) Discuss on stability of tunnels through limb and axial region of folds.[6]
b) Explain the suitable and unsuitable dipping strata conditions at dam site.[6]
c) Discuss on tunnel excavated through faulted area. [5]

- Q7)** a) Define landslide? Describe preventive measures against landslides. [6]
b) Explain various types of aquifers. [6]
c) Describe suitability of basalt, granite and limestone as a building stone.[6]

OR

- Q8)** a) What is earthquake? Explain causes of earthquake. [6]
b) What is groundwater? Describe methods of artificial recharge of groundwater. [6]
c) Describe requirements of good building stone. [6]

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