

Total No. of Questions :6]

SEAT No. :

[Total No. of Pages :4

P3657

[4959] - 1008

B.E. (Civil Engg.)

e: ADVANCED ENGINEERING GEOLOGY WITH ROCK MECHANICS

(Semester - I) (Elective - I) (2012 Course)

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) All questions are compulsory.*
- 2) Figures to the right indicate full marks.*
- 3) Neat diagrams should be drawn wherever necessary.*

Q1) a) Write short note on Geology of Maharashtra. **[6]**

OR

b) Describe the Varieties of Deccan Trap Basalt. **[6]**

Q2) a) Write a note on Engineering significance of Tachylytic Basalt. **[7]**

OR

b) How location of spillway is decided on geological grounds. **[7]**

Q3) a) What do you mean by watershed development? How the soil erosion is prevented. **[7]**

OR

b) Write a note on Percolation Tank on Amygdaloidal Basalt. **[7]**

P.T.O.

Q4) a) Explain in detail Bieniawski's Geomechanical classification. **[8]**

b) On the basis of core obtained in DTB which rocks are likely to be occurring at different levels & discuss their feasibility from dam foundation. **[8]**

Run in m	Piece No.	Length in cm.	Nature of fracture
3-6 m	1	10	J
	2	11	J
	3	100	M
	4	45	M
	5	55	M
	6	13	J
	7	50	J
	8	6	J
	9	8	J
6 - 9 m	10	90	M
	11	80	M
	12	120	M
	13	10	M

OR

a) Explain in detail electrical resistivity method in detail. [8]

b) Calculate Core recovery and RQD recovery from following table. [8]

Run in m	Piece No.	Length in cm.	Nature of fracture
0 - 3 m	1	10	J
	2	11	J
	3	07	J
	4	45	J
	5	55	J
	6	13	J
	7	50	J
	8	15	J
	9	8	J
3 - 6 m	10	90	M
	11	80	M
	12	120	M
	13	07	J

- Q5)** a) Whether the tunnels are suitable through limestone and quartzite. [10]
b) Explain in brief safe bearing capacity during bridge construction. [7]

OR

- a) Write note on Standup time of rock during tunneling. [10]
b) Write note on location and depth of drill holes at foundation of bridge.[7]

- Q6)** a) Explain suitability of DTB as construction material. [10]
b) Give the geological reasons of earthquake occurrence. [7]

OR

- a) Explain in detail influence of geology in planning. [10]
b) Write a note on foundation of monumental buildings with suitable examples. [7]

