

Total No. of Questions : 6]

SEAT No. :

**P1921**

[Total No. of Pages : 2

**[5254]-18**

**B.E. (Civil) (Semester - II)**

**ADVANCED ENGINEERING GEOLOGY WITH ROCK MECHANICS**

**(2008 Pattern) (Elective - III)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Answer to the two sections should be written in separate books.*
- 3) *Figures to the right indicate full marks.*
- 4) *Neat diagrams should be drawn wherever necessary.*

**SECTION - I**

**Q1)** Write notes on :

- a) Explain the feasibility of older metamorphic rocks in Maharashtra State in Civil Engineering Construction with suitable examples. **[8]**
- b) Groups of Basaltic Flows. **[6]**
- c) Field characters of dykes in Maharashtra. **[4]**

OR

- a) Explain the feasibility of older secondary rocks in Maharashtra State in Civil Engineering Construction with suitable examples. **[8]**
- b) Nature of Tachylytes in Deccan Trap area. **[6]**
- c) Field Characters of fractures. **[4]**

**Q2)** Explain the suitability of deccan trap rocks dam foundation point of view in detail with suitable case histories. **[16]**

OR

- a) Types of spillway and one case history of tail channel erosion in Deccan Trap area. **[8]**
- b) Explain various theories of origin of Tachylytes. **[8]**

**Q3)** What are soils? How are they formed? Explain residual & transported soul of Maharashtra State. **[16]**

OR

- a) Water Bearing characters of Deccan trap basalts. **[10]**
- b) Scarcity of sand in Deccan Tap area. **[6]**

**P.T.O.**

## SECTION - II

- Q4)** a) Explain any 3 physical properties of rock masses in details. [9]  
b) Discuss Barton's system of classification of rock masses. [9]

OR

- a) What are the different mechanical properties of rock masses? Explain them in details. [9]  
b) Explain C-factor and Terzaghi's system of classifications of rock masses. [9]

- Q5)** a) Explain any 2 Case histories of bridges in Maharashtra State from geological point of view. [8]  
b) The feasibility of Compact Basalt and Amygdaloidal Basalt from tunneling point of view with case histories. [8]

OR

- a) Buoyancy of rock masses. [6]  
b) Discuss the influence divisional planes during tunneling. Give suitable case histories. [10]

- Q6)** a) Width of fault Zone. [4]  
b) Artificial grounds. [4]  
c) Compact Basalt as a construction material. [8]

OR

- a) Relationship Earthquake and Dam. [8]  
b) Foundations of Monumental buildings. [4]  
c) Active faults. [4]

