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Total No. of Pages : 01

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M.Tech. Civil Engg. EL-I (2016 Batch) (Sem.-2)

**ENGINEERING ROCK MECHANICS**

Subject Code : MTCE-213

M.Code : 74306

Time : 3 Hrs.

Max. Marks : 100

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1. a) What are the different types of rock slope stabilization methods & discuss it? (10)  
b) How does geo physical investigations are done? Explain any two methods for that. (10)
2. a) How does the performance of blasting of rocks can be evaluated? (15)  
b) Explain bench blasting & define power factor. (05)
3. a) Discuss the geological classification of rocks. (10)  
b) Discuss the physico-mechanical properties of rocks. (10)
4. a) What are the common modes of failure in rocks under compression? (10)  
b) What are the different parameters used to classify a rock mass using RMR (rock mass rating) System? (10)
5. a) What are the different techniques used for the measurement of insitu stresses? (10)  
b) What is the influence of the principal stress ratio on failure? (05)  
c) How does the size of the rock effects the strength of rock. (02)  
d) What is the effect of water on rock's strength? (02)  
e) Define Anisotropy. (01)
6. a) What are the various modes of failure of slopes in hard rocks? (08)  
b) How does the block theory is applicable to rock slopes. (08)  
c) Define subsiding and swelling rocks. (04)
7. Define Rock engineering. What are the different approaches to rock mechanics modeling for rock engineering design. (10)
8. What are fractured rocks? How does rock deformation is influenced by time. (10)

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**