A

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

THIRD SEMESTER M.TECH DEGREE EXAMINATION

Civil Engineering

(Geomechanics and Structures)

04 CE 7305 Rock Mechanics

Max. Marks : 60   Duration: 3 Hours

Part A

Answer all Questions
Each Question Carries 3 marks

1. Explain Brazilian test for finding tensile strength of rock?

2. Name any three application of complete Stress Strain curve of rock

3. Explain Coulomb Navier failure criterion

4. Write a note on subsidence due to under ground openings

5. Sketch different mode of failure on rock

6. What are the recommendations on rock foundations mentioned in IS 12070-1987

7. Explain the importance of shape of tunneling

8. What is the effect of fault in tunneling operations?

(8x3=24 marks)

Part B

Each Question Carries 6 marks

9. Briefly explain Uniaxial jacking test in rock

OR

10.Comment about RQD rock mass classification

11.Write a note about faults occurring in rock mass

OR

12.Write a note on Stress-Strain behavior of rock in compression

13. Explain Griffith theory of brittle strength

OR

14.Explain Hoek and Brown failure Criterion

15.What is the importance of lining in tunnels?

OR

16.Comment about stresses around openings in rock mass

17.List out the type rock failure occurring in rock mass

OR

18.What are design criteria of foundation in rock

19.Explain rock bolting with neat sketches

OR

20.What are the problems associated with tunneling

(6x6=36 marks)