

20PEB208P					Geomechanics and Strength of Materials Practical					
Teaching Scheme					Examination Scheme					
L	T	P	C	Hrs/Week	Theory			Practical		Total Marks
					MS	ES	IA	LW	LE/Viva	
0	0	2	1	2	-	-	-	50	50	100

COURSE OBJECTIVES

- To understanding Geomechanical properties of the reservoir/Seal rocks
- Differentiate between strain energy and strain energy density
- To explain the experimental methods for spring stiffness Test, The tension test
- Understand failure planes in different rocks

List of Experiments

1. Rockwell hardness test
2. Brinell hardness test
3. Impact test
4. Tension test
5. Torsion test
6. Bending test
7. Shear test
8. Compression test
9. Fatigue test(To find endurance limit)
10. Triaxial test of reservoir rocks

COURSE OUTCOMES

On completion of the course, student will be able to

CO1- Understand the structure and mechanical properties of different materials viz., metals, soil, minerals and rocks

CO2- Determine the geo-mechanical properties of materials and predicting the failure based on the various failure theories

CO3- Estimate the changes in shear strength of reservoir rocks vis-à-vis reservoir production, and its effect on the petrophysical properties

CO4- Apply the understanding of stress-field to optimize production

CO5- Evaluate the failure of the wall of the wellbore during drilling activities

CO6- Analyze stress-field around boreholes using laboratory data and extending it to field situations

TEXT/REFERENCE BOOKS

1. Zoback, M. D. (2010) Reservoir Geomechanics,

END SEMESTER EXAMINATION QUESTION PAPER PATTERN**Max. Marks: 100**

PART A: Evaluation Based on the class performance and Laboratory book

PART B: Viva Examination based conducted experiments

Exam Duration: 3 Hrs

50Marks

50 Marks