17MPE117 : Drilling Engineering 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**

List of Experiments:

1. Preparation of WBM and OBM including determination of pH of drilling fluid using pH meter.
2. To calibrate the mud balance and determine the specific gravity / density of the mud.
3. To measure the viscosity of drilling fluid using Marsh funnel viscometer.
4. To determine the Rheology of the drilling fluid using Rheometer.
5. To determine the volumes of Water, Oil and Solids in Drilling Fluid using Retort kit.
6. To determine the Fluid loss using Low-temperature/low-pressure API filtration apparatus.
7. To determine the Sand content in drilling fluid using sand content kit.
8. To determine the alkalinity in Drilling fluid and in filtrate of drilling fluid by titration method.
9. To determine the Total hardness in drilling fluid by titration method. Field procedure to determining the total hardness in mud filtrate.
10. To determine the Calcium and Magnesium in drilling fluid by titration method. Field procedure to determining the Ca in mud filtrate.
11. Field procedure for determining cation exchange capacity.
12. To determine the Emulsion stability using Emulsion stability (ES) meter.
13. To measure the gel or shear strength of drilling fluid using Shearometer.
14. To determine the Resistivity of drilling fluid and mud cake using Analog Resistivity meter.
15. Prepare homogeneous cement slurry with the help of Constant Speed Mixer.
16. To measure the absolute density of cement slurry using pressurized mud balance.
17. To determine the thickening time of cement slurries under simulated wellbore conditions using HPHT Consistometer
18. To condition cement slurry to test temperature to enable further testing using Atmospheric Consistometer.
19. To estimate the volume of filtrate lost to the formation using HPHT Filter Press.
20. To determine the rheological properties and graphical behavior of cement slurries using automated computerized viscometer.
21. To determine the stability of Cement Slurry under static Conditions using free water test.