COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	CREDIT
DP	NFMC505	Mineral Processing Lab	0	0	3	1.5

COURSE OBJECTIVE
To impart hands-on training on the laboratory techniques used in mineral processing and coal preparation processes applied for coarse particles

LEARNING OUTCOMES
After successful completion of this course, the students will be able to

- Carry out characterization of a sample for processing
- Conduct laboratory comminution testing
- Conduct laboratory testing of a sample for coarse cleaning

NO.	NAME OF THE EXPERIMENTS	HOURS	LEARNING OUTCOME
1	Orientation of Mineral Processing Lab	3	Introduction to mineral processing lab
2	Sampling of an ore using different techniques and determining the errors involved	3	Knowledge of the different laboratory sampling techniques
3	Crushing of different materials using a laboratory jaw crusher and estimation of its performance parameters	3	Experience in laboratory jaw-crushing
4	Crushing of different materials using a laboratory roll crusher and estimation of its performance parameters	3	Experience in laboratory roll-crushing
5	Grinding an ore sample using a laboratory ball mill and determining the reduction ratio and throughput	3	Experience in laboratory ball milling
6	Determination of the relative density, bulk density and abrasion index of a given sample	3	Knowledge of characterization techniques
7	Determination of the grade of an iron-ore sample and correlation of the results with AAS	3	Knowledge of chemical analysis of ferrous ores
8	Determination of the grade of a non-ferrous ore sample and correlation of the results with AAS	3	Knowledge of chemical analysis of non-ferrous ores
9	Size distribution analysis of a given sample using dry and wet sieving	3	Understanding of size distribution analysis
10	Washability analysis of a coal sample I: float-sink tests	3	Familiarization with washability analysis
11	Washability analysis of a coal sample II: ash analysis	3	

12	Beneficiation studies of a given sample using a laboratory jig and estimation of the effect of parameters	3	Experience in beneficiation using laboratory jigs
13	Determination of magnetics content using a Davis' Tube Magnetics Tester	3	Knowledge of determination of magnetics contents of ores
14	Beneficiation studies on a given sample using a Perm Roll Magnetic Separator and estimation of the effect of parameters	3	Experience in beneficiation using laboratory magnetic separator
Total		**42**	

TEXT BOOKS:

1. Mineral Processing Laboratory Manual by FMME Department, IIT (ISM) Dhanbad