Course Type	Course Code	Name of Course	L	T	P	Credit
DP8	MNC 303	MINE VENTILATION PRACTICAL-II	0	0	2	2

Course Objective

The primary objective of the course is to introduce students to measurement of proneness to spontaneous heating, dust along with operation of mine rescue equipment.

Learning Outcomes

Upon completion of the course, students will be able to conduct various experiments related to detection of spontaneous heating of coal, measurement of respirable dust concentration including various rescue equipment.

Sl. No.	Name of the practical	No. of Practicals	Learning Outcome
1.	Determination of susceptibility of coal to spontaneous combustion using Crossing Point Temperature (CPT) method	1	Students will know the constructional features of CPT apparatus and method of determination of susceptibility of coals to spontaneous combustion using it
2.	Determination of Inflammability Index of a given coal sample using Godbert–Greenwald apparatus	1	Students will know the constructional features of Godbert–Greenwald apparatus and method of determination of inflammability of coal dust cloud using it
3.	Determination of airborne respirable dust concentration using Gravimetric Dust Sampler and Konimeter	1	Students will learn the constructional features of Gravimetric Dust Sampler and Konimeter, and method of measurement of airborne respirable duct concentration in mine atmosphere using them
4.	Determination of airborne respirable dust concentration using Personal Dust Sampler	1	Students will learn the method of assessment of personal exposure level of airborne respirable duct concentration in mine atmosphere using Personal Dust Sampler
5.	Determination of airborne respirable dust concentration using Real-time Aerosol Monitor	1	Students will learn the constructional features and method of measurement of airborne respirable duct concentration in mine atmosphere using Real-time Aerosol Monitor
6.	Study and sketch of self-rescuers (Chemical oxygen type and other models)	1	Students will know the applications, constructional features and working of different types of self-rescuers used in mines
7.	Study and sketch of self-contained oxygen breathing apparatus	1	Students will know the applications, constructional features and working of self-contained oxygen breathing apparatus used in mines
8.	Study and sketch of reviving apparatus	1	Students will know the applications, constructional features and working of reviving apparatus used in mines for artificial respiration of victims
9.	Evaluation of performance of rescue equipment using Artificial Lung Machine or	1	Students will know the constructional features, working of Artificial Lung

Sl. No.	Name of the practical	No. of Practicals	Learning Outcome
	Artificial Breathing simulator		Machine and procedure for evaluating the performance of closed-circuit breathing apparatus using it

Text Books:

1. Mine Disasters and Mine Rescue by M.A. Ramlu.
2. Mine Environment and Ventilation by G. B. Misra.
3. Mine Ventilation by S. P. Banerjee.
1. Subsurface Ventilation and Environmental Engineering by M.J. McPherson.