

Discipline	Semester	Name of the Teaching faculty
		Gidhanta Biswal
subject	No. of Days	Semester From date :- 15/09/2022
TH2- Mine Hazards and Safety	Per week class allotted	To date :- 21/01/2023
	04	No. of weeks :- 15
Week	Class Day	Theory
1 <sup>st</sup>	1 <sup>st</sup>	Composition of atmospheric air, Different mine gases, their properties and physical effects
	2 <sup>nd</sup>	Firedamp, black damp, stink damp, white damp and after damp in mines.
	3 <sup>rd</sup>	Flame safety lamp & its working principle.
	4 <sup>th</sup>	Gas testing by flame safety lamp by accumulation test & percentage test
2 <sup>nd</sup>	1 <sup>st</sup>	Precaution for gas testing
	2 <sup>nd</sup>	Various parts of flame safety lamp and special features, Limitation of flame safety lamp
3 <sup>rd</sup>	3 <sup>rd</sup>	Definition of firedamp in U/g workings
	4 <sup>th</sup>	Gradual exudation of firedamp in U/g workings.
	1 <sup>st</sup>	Blowers of firedamp in U/g workings
	2 <sup>nd</sup>	

	3rd	outbursts of fire damp in V/g workings.
	4th	- do -
Define fires	1st	Definition of fires with various types of fire
and spontaneous heating	2nd	Definition of spontaneous heating
	3rd	Definition of incubation period
	4th	- do -
	5th	- do -
	1st	The causes of spontaneous heating
	2nd	Effects of spontaneous heating
	3rd	Preventive measures against spontaneous heating
	4th	- do -
	5th	- do -
	1st	Explanation of CO/O <sub>2</sub> ratio
	2nd	Explanation of CO <sub>2</sub> /O <sub>2</sub> ratio
Mine Explosion	3rd	Description of coal dust explosion with causes & prevention
	4th	Description of fire damp explosion with causes & prevention.
	5th	Responsibilities of coal dust.

	2 <sup>nd</sup>	Inflammability of fire damp.
	3 <sup>rd</sup>	Explanation of Coward's Diagram
	4 <sup>th</sup>	Prevention of dust
5 <sup>th</sup>	1 <sup>st</sup>	Suppression of dust
	2 <sup>nd</sup>	Treatment of dust
	3 <sup>rd</sup>	Sampling of dust in mines
	4 <sup>th</sup>	Stone dust barriers
9 <sup>th</sup>	1 <sup>st</sup>	sources of water in mines & its danger.
Mine inundation	2 <sup>nd</sup>	precaution against inundation
	3 <sup>rd</sup>	Description of burnside safety boring apparatus
	4 <sup>th</sup>	precaution while approaching water logged area.
10 <sup>th</sup>	1 <sup>st</sup>	Description of V-water dams.
	2 <sup>nd</sup>	construction & design of water dams.
	3 <sup>rd</sup>	Explanation of water danger plan
	4 <sup>th</sup>	Statutory provision for working near water body.

11 <sup>th</sup>	1 <sup>st</sup>	Definition of illumination and its units
Mine lighting & illumination	2 <sup>nd</sup>	Various concept of illumination
	3 <sup>rd</sup>	-do-
	4 <sup>th</sup>	Standards of lighting at different parts of mine as per mine regulation
	1 <sup>st</sup>	-do-
12 <sup>th</sup>	2 <sup>nd</sup>	Definition of noise and vibration
Noise and vibration	3 <sup>rd</sup>	Effect of noise & vibration on miners
	4 <sup>th</sup>	Effect of noise & vibration on mine structures
	1 <sup>st</sup>	Effect of noise & vibration on various surface structures
Mine Rescue and Recovery	2 <sup>nd</sup>	-do-
	3 <sup>rd</sup>	Proto - I
	4 <sup>th</sup>	Proto - V
	1 <sup>st</sup>	Construction & design of water supply
14 <sup>th</sup>	2 <sup>nd</sup>	Explorer of water supply
	3 <sup>rd</sup>	Smoke helmet

15<sup>th</sup>

4<sup>th</sup>

Gas Mask

1<sup>st</sup>

construction of rescue brigade and their role in rescue and recovery operations

2<sup>nd</sup>

- do -

3<sup>rd</sup>

Mine Rescue rules 1985 Annexure, I, II

4<sup>th</sup>

Mine Rescue rules 1985 Annexure III.

~~22/15/19/29~~