

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: VIII

MINING ENGINEERING

Subject Name: **ADVANCE MINING METHODS**

Sr. No	Course Content	Total Hrs.
1.	Supports: Powered supports, their principles of operation and design. Constructional features and application; support of wide excavations longwall faces and depillaring.	4
2.	Horizon mining, cross-cuts, laterals, their intervals, methods of drivage, application of the system of mining.	6
3.	Modified methods of working, Thin, thick contiguous, including steeply inclined seam, working of seams liable to spontaneous heating. Working of seams under river and water lodgements, Classification of coal underground underlying principles, applicability and practices.	6
4.	Hydraulic Mining : Principles and applications, plants and layouts operations and control, advantage. Underground Coal Gasification: Basic principal; methods of gasification; scope of application.	6
5.	Mining of Thin Seams : Problems in mining thin seams; equipment and methods for thin seam extraction.	4
6.	Deep Mining: Problems of deep mining and the remedical measures; design and layout of stopes in rockburst prone mines.	5
7.	Special Methods : Hydraulic, thermal, hydrochemical and biochemical method; nuclear device mining system scope of application for mining of deep seated low grade mineral deposits; underwater/sea-bed mining current status; different methods of winning manganese nodules from the ocean-floor. Recent developments in underground metal mining. Ore mining by leaching.	11

Text Books/ Reference Books: