

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. SEMESTER: V

MINING ENGINEERING

Subject Name: **Mining Machinery – II**

Subject Code: **152201**

Teaching Scheme				Evaluation Scheme		
Theory	Tutorial	Practical	Total	University Exam (Theory) (E)	Mid Sem Exam (Theory) (M)	Practical (I)
2	0	2	4	70	30	50

Sr. No.	Course content
1.	Winding : Shaft fittings and head gear design.
2.	Winding System : Different types, Mechanical and electrical braking, Ward Leonard control, Automatic winding. Winding drums: Types, their construction and duty cycles, Detaching hooks, Cages, Skips and suspension gear, Rigid and rope guides, Methods of counter balancing loads, Multi rope winding, Winding from different horizons, Design calculation for different types of winding system, Safety devices, Signalling Safety regulations different signalling system in mines.
3.	Mineral Handling : Layouts of pit-top and pit-bottom, Details of banking, Mineral handling and screening equipments, Creepers, Trippers, Layouts of railways siding of mines.
4.	Mechanics of Coal Cutting : Workability of Coal, Efficiency of coal cutting equipments, Design of equipments, Selection and application of machinery.
5.	Face Loaders for Coal Mines: Construction features, Principal types, Choice of loaders, Operation and maintenance, Layout of faces for working with power loaders under varied condition.
6.	Cutter Loaders: Coal Ploughs and continuous Miners : Principles of operation, construction features, their suitability, their choice, operation and maintenance.

Reference Books:

1. Elements of Mining Technology (Vol- II), D.J.Deshmukh.
2. Advance coal mining Tech., Samir Kumar Das.
3. Advance coal mining, B. Singh.
4. U M S

