4301 – MINING PROJECT											
Teaching Schedule Per Week			Progressive Assessment		Examination Schedule (Marks)						
Lectures	Practical	Credits			Theory		Practical Ex.		Total		
-	4	4	25	25	-	-	100		150		
Pre-requisite		Source	Semester	Theory	Test	Total	TW	PR	Gr Total		
90 Cr		MIN		—	—	—	50	50	100		

Rationale: Mining engineer is required to take on the spot decisions at the mine site considering the changes in working parameters. Outline knowledge on design of mining operations is required for taking appropriate decisions. Objectives: To train the students in logical thinking and deriving conclusions for designing parameters of mining processes.

WORK CONTENTS

This enables the students to identify and develop their talents and skills and also to increase their academic knowledge, practical experience and ability to analyse problems and suggest solutions. The work involves design, fabrication, theoretical and experimental studies, and investigations into specific aspects of live problems in mining and mining related industries.

The project work is a four-credit course with four conduct hours per week. The students would perform in convenient groups of not exceeding two- three members under the guidance of a faculty of the institute. The guide would constantly interact with and monitor the students and assess the progress by periodical review of the laboratory work, computer analysis/field work in a manner deemed fit and appropriate.

The continuous assessment and semester evaluation would be carried out from time to time.

The students shall finally produce a comprehensive report enshrining the problem statement, background information, literature survey, project work details and conclusions. The report shall be submitted in the specified form.

A group of 2-3 students shall undertake any specified project in mining. The fieldwork is expected to be less. However one or two visits to the field related assignment is suggested.

The following steps shall be followed:

1. To understand the project given by teacher
2. To scan the library for relevant books, journals, reports etc.
3. To decide the approach for seeking the problem
4. To make field visit if required.
5. To collect relevant data for calculations.
6. To do the actual calculations
7. To project the final conclusions in the form of report charts, drawings, models etc.
8. To prepare a detailed report neatly bound.
9. To appear for the oral examination

SUGGESTED TOPICS FOR PROJECT:

The mining projects recommended below are mere guideline. The actual parameters of a mining project are left to the discretion of the guide and the students.

1. Suggest a suitable blasting pattern for a specific excavation work. Calculate all blasting parameters including cost. Propose manpower and machine requirements and best work organisation.
2. Given geological plan of a mineral deposit suggest the best method of opening up a deposit and design the dimensions of the entries.
3. Given the characteristics of the ore body suggest a suitable method of extraction of ore for a specific production level.
4. Project the men and machinery requirement for a mine for given rate of production.
5. Suggest the tunnelling operation required for a railway tunnel including requirement of men and machinery.
6. Suggest a suitable method of overburden disposal for any mine based upon given conditions.
7. Project a method of dust control for a working opencast mine.
8. Suggest a good ventilation system for an existing mine.
9. Suggest an open cast mine working below water table.

PROGRESSIVE ASSESSMENT:

The term work marks will be granted by the guide of the project work based upon the performance of the individual student throughout the project work. Each group will prepare one report. Models may be prepared for visual display. Each guide will look after not more than five projects.

ORAL:

The panel of examiners will consist of the guides and one external examiner. The group will present the project before the examiner by displaying drawing charts, maps and models, etc. prepared by them. The examiners shall assess individual student by way of viva. It is suggested to invite other students as audience while presenting the project.