

SYLLABUS :-

Basic concepts; deposits amenable to surface mining; types of surface mining systems - applicability, limitations, advantages, disadvantages, classification and choice; unit operations; Elements of surface mine planning; concept of stripping ratios. Opening up of Deposits : Site preparation; box cut; formation of benches. Ground Preparation for Excavation: Ripping; drilling and blasting. Excavation and Loading: operation, productivity, application and limitation of shovels, hydraulic excavators, draglines, front-end-loaders, scrapers, bucket wheel excavators and continuous surface miners. Transportation: operation, application and limitations of dumpers, conveyors (shiftable and high-angle); in-pit crushing and conveying; Extraction of mineral deposits: bedded, vein, pipe, cap, massive. Opencast mining of coal above underground workings. Mine solid waste dump: internal and external - layout, equipment, construction. Introduction to mining of stone, placer deposits.