

6th Semester

Mine Planning and Design

Module - I:

Principle of Mine Planning: Plans to be maintained in the mineral industry, Stages of planning of new mines, requirements of planning, Master Plan, Feasibility Report, Detailed project report

Module - II:

Technical considerations in planning: Selection of method of mining, opening up of open cast mines and underground mines, development of open cast mines and underground mines, Division of mine lease area into mining Units, location of entries, Surface layouts, pit bottom layout, Ventilation planning

Module - III:

Planning of mine workings and systems: infrastructure planning, production planning, Mineral handling plant, optimal planning, Planning of special methods of Coal and metal mines, Placer Mining, Sea bed Mining

Module-IV:

Socio-Economic considerations: Social aspects, Environment Management Plan, estimation of mining costs and profits, Restructuring planning, Issues and challenges of Mine planning in the future

Module-V:

Mine Closure plan, Computer applications in mine planning & design

Books:

- [1] J. Bhattacharya, **Principles of Mine Planning**, Allied Publishers Pvt Limited, New Delhi, 2003
- [2] W. Hustrulid and M. Kuchta, **Open Pit Mine Planning and Design**, A. A. Balkema Rotterdam, 1995
- [3] S. P. Mathur, **Mine Planning for Coal**, M. G. Consultants, Bilaspur, 1993
- [4] H. L. Hartman et al., **SME Mining Engineering Handbook, Vol. I & II**, SME, USA, 1992
- [5] PWJ Van Rensburg, **Planning Open-pit mines**, AA Balkema Cape Town, 1970