

End Semester/ Reappear (Semester V) Examination December, 2024

Programme: Diploma (MiE)

Course: Surface Mining

Course Code: 8D.301

Enrolment no. _____

Full Marks: 70

Time: 3 Hrs.

Section I

- 1. Short Answer type questions. Answer any four. 4 x 5 = 20**
- Differentiate double entry & spiral entry in opencast mines.
 - Classify the excavating equipments of opencast mining method.
 - Draw the all types of electric detonator showing its important parts.
 - Briefly discuss about secondary blasting and its type why it is required?
 - Differentiate between Safety fuse and detonating cord.
 - Differentiate the Excavators.

Section II

- Long Answer type questions. Answer any three. 3 x 10 = 30**
- Explain the five processes in detail with equipment's required in that production process.
 - Write short notes on the followings in brief: Surface Miner, Scraper, Ripper, Back hoe.
 - Discuss the permitted explosive and Emulsion explosive in details with composition name.
 - How do misfires occur in the surface mining? Write the probable reasons of it.
 - Explain the Precaution while Mixing ANFO & SME Handling and uses.

Section III

- Application based questions. Answer any one. 1 x 20 = 20**
- In an overburden bench of an iron ore mine the following data is as follows: height=10m, burden=34m, spacing=3m, subgrade drilling =1m, color stemming =3m. If the diameter of explosive column is 150mm and specific gravity of explosive and rock are 0.9 &2.4 respectively, evaluate the powder factor?
 - Discuss the various factors affecting selection of opencast mining method. What are the advantages and disadvantages of opencast mining?
 - Enumerate the factors that affect the equipment selection for opencast method. Explain parts of shovel.
