

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION – SUMMER 2025

Subject Code:3172208

Date:19-05-2025

Subject Name:Mine Planning

Time:02:30 PM TO 05:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	MARKS
Q.1 (a) Write the importance of mine planning.	03
(b) What do you mean by Probable Ore Reserve & Proved Ore Reserve?	04
(c) Write a brief note on stage/phases of mine life.	07
Q.2 (a) Write the components of mine planning.	03
(b) Explain stripping ratio & its type.	04
(c) What do understand by ore reserve estimation? Explain any two method with sketch.	07
OR	
(c) Explain in detail: Ultimate pit configuration and its determination.	07
Q.3 (a) Draw a neat sketch of bench geometry.	03
(b) Explain cut-off grade with one example.	04
(c) Discuss about the bench design for surface mining.	07
OR	
Q.3 (a) Which factors are affects to planning and designing of surface mines?	03
(b) Narrate the preparation for underground coal mine planning.	04
(c) What is haul road? Discuss its importance in opencast mines.	07
Q.4 (a) How do we maximize income in mining? Also write some of the ways to minimize the cost.	03
(b) Explain the Taylor's mine life rule in details.	04
(c) Discuss the contents and preparation of feasibility report of surface mine.	07
OR	
Q.4 (a) What do you understand by mine closure?	03
(b) Determine mine size in details and its process.	04
(c) Discuss the Stability analysis and design methodology for waste dumps.	07
Q.5 (a) Which parameters are considered for selection of suitable stoping methods?	03
(b) Discuss the influence of pit slope on mine economics.	04
(c) Write a note on legal aspects and technical parameters are considered for mine closure.	07
OR	
Q.5 (a) Define revenue and cost.	03
(b) Write the advantages and disadvantages of mine closure planning.	04
(c) Why don't we use a couple of huge pieces of equipment to extract all of the ore during the first year, instead of spending say 15-20 years in one operation? Explain in details.	07
