

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024

Subject Code:3172208

Date:04-12-2024

Subject Name: Mine Planning

Time:10:30 AM TO 01:00 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) Discuss the role of mine planning in mining.	03
	(b) Define the term Reserve. Explain various types of reserve.	04
	(c) Explain the various legal aspects of mine closure planning.	07
Q.2	(a) Define the term life of mine. Submit three common mathematical expressions to calculate the same.	03
	(b) Describe the different types of stripping ratios and their significance.	04
	(c) Define the term cut-off grade. Explain how it is determined.	07
	OR	
	(c) Narrate the preparation and economic evaluation of detailed project report for underground coal mine planning.	07
Q.3	(a) Discuss the various economic considerations for optimization of mine design.	03
	(b) Describe factors affecting to planning and designing of a surface mine.	04
	(c) Define the term mine planning and design. Explain the components of mine planning.	07
	OR	
Q.3	(a) Discuss the parameters are consider for selection of suitable stopping methods.	03
	(b) Explain the mining revenues and costs, and their estimation.	04
	(c) Explain the role of bench geometry and mine layouts in surface mines.	07
Q.4	(a) Describe the parameter affecting design of haul road.	03
	(b) Describe the role of geometrical size of a mine in underground mining.	04
	(c) Explain the role of planning and scheduling of production in underground mines.	07
	OR	
Q.4	(a) Discuss the factors affecting on choice of mining equipment.	03
	(b) Describe the mine system and sub-system of underground coal mining.	04
	(c) State the statutory norms for mine closure planning.	07
Q.5	(a) Discuss the technical and economic information required for planning.	03
	(b) Explain the determination of mine size and Taylors mine life rule.	04
	(c) Explain the preparation of feasibility study report.	07
	OR	
Q.5	(a) Discuss the advantages and amendments in mine closure planning.	03
	(b) Describe the stability analysis and design methodology for waste dumps.	04
	(c) Explain the ultimate pit configuration and its determination.	07
