

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:3172208****Date:01/06/2022****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) Define the term mine planning. Discuss the role of mine planning in mining.	03
	(b) Describe factors affecting to planning and designing of a surface mine.	04
	(c) Narrate the preparation and economic evaluation for underground coal mine planning.	07
Q.2	(a) Discuss the advantages and amendments in mine closure planning.	03
	(b) Define the term Reserve. Explain various types of reserve.	04
	(c) Explain the different phases of planning process.	07
	OR	
	(c) Define the term mine planning and design. Explain the components of mine planning in brief.	07
Q.3	(a) Define the term life of mine. Submit three common mathematical expressions to calculate the same.	03
	(b) Explain the determination of mine size and Taylors mine life rule.	04
	(c) Define the term cut-off grade. Explain how it is determined.	07
	OR	
Q.3	(a) Discuss the parameters are consider for selection of suitable stopping methods.	03
	(b) Discuss the mine system and sub-system of underground coal mining with necessary sketch.	04
	(c) As a Mining engineers prepare a detailed project report of any mines you have visited.	07
Q.4	(a) Define the term mining losses. Explain how it is affecting life of mine.	03
	(b) Define the term reserve estimation. Explain different techniques for reserve estimation.	04
	(c) Explain the role of bench geometry and mine layouts in surface mines.	07
	OR	
Q.4	(a) Discuss the factors affecting on choice of mining equipment.	03
	(b) Explain slope stability analysis and design methodology in brief.	04
	(c) Explain the role of planning and scheduling of production in underground mines.	07
Q.5	(a) Describe parameter affecting design of haul road.	03
	(b) Explain the role of geometrical size of a mine in underground mining.	04

- (c) Explain the role of feasibility report for metallic and non-metallic minerals. **07**

OR

- Q.5** (a) Discuss the importance of haul road in opencast mines. **03**
(b) Discuss the various economic considerations for optimization of mine design. **04**
(c) Explain the various legal aspects of mine closure planning. **07**
