

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2022****Subject Code:3172211****Date:06/06/2022****Subject Name:Advanced Mining Methods****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) Explain the walking mechanism of power supports.	03
	(b) Explain the function of power supports.	04
	(c) Explain horizon mining with its applicability, advantages and disadvantages.	07
Q.2	(a) List the problems faced while working with thick seams.	03
	(b) Give the advantages and disadvantages of underground coal gasification.	04
	(c) Classify slicing method. Explain order of slicing with their advantages and disadvantages.	07
	OR	
	(c) Using appropriate layout explain inclined slicing with its advantages and disadvantages.	07
Q.3	(a) Classify types of seams based on its thickness and continuity as per Indian standards.	03
	(b) Define underwater mining. Also list its problems.	04
	(c) Explain different methods of establishing linkages between boreholes in underground coal gasification.	07
	OR	
Q.3	(a) Give the suitable conditions for application of hydraulic mining.	03
	(b) Explain the transportation arrangements made while working with hydraulic mining.	04
	(c) Discuss the procedure of hydraulic mining with suitable assumptions and layout.	07
Q.4	(a) Write a note on evolution of power supports.	03
	(b) Define leaching and give its application in mining.	04
	(c) Discuss sublevel caving with suitable layout.	07
	OR	
Q.4	(a) List the radioactive minerals excavated in India with its location.	03
	(b) Explain hydro-chemical and biochemical methods of mining.	04
	(c) Explain deep sea mining for manganese nodules.	07
Q.5	(a) List the problems associated with mining of radioactive minerals.	03
	(b) State the precautions to be taken while mining radioactive mineral.	04
	(c) Discuss underground coal gasification method with suitable layout.	07
	OR	
Q.5	(a) Explain auger mining.	03
	(b) List the problems in mechanization of thin seam working.	04
	(c) Explain mining of contiguous seams.	07
