Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-IV (NEW) - EXAMINATION – SUMMER 2017

Subject Code: 2142206	Date: 12/06/2017

Subject Name: Surface Mine Production

Time: 10:30 AM to 01:00 PM	Total Marks: 70
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Instructions:

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

			MARKS
Q.1		Short Questions.	14
	1	Define the Bench.	
	2	Define the Bench Height & Width.	
	3	What do you mean by O.M.S?	
	4	Define the Stripping Ratio.	
	5	The minimum production/day of lignite mine is 2000 tonne. Provide the suitable shovel-dumper combination.	
	6	Define the Overall pit slope angle.	
	7	How much quantity of lime stone is required for producing 1 tonne of lime stone?	
	8	Write the DGMS's guideline for calculating the width of the haul road.	
	9	Differentiate the tippler and dumper.	
	10	Define the Cut off grade.	
	11	What do you mean by secondary blasting?	
	12	Enlist various drilling pattern.	
	13	Write the formula which represents the relation between spacing and burden.	
	14	What is the Specific gravity of lignite?	
Q.2	(a)	Write a short note on Taylor's rule for life of mine.	03
ζ	(b)	Draw a layout (Plan view & Cross-section view for flat deposit. (Minimum 10 benches)	04
	(c)	Write a short note on types of dumper.	07
		OR	
	(c)	Enlist the equipments required for ground preparation. Explain any one.	07
Q.3	(a)	What do you mean by Reclamation? What is the basic difference between reclamation and restoring?	03
	(b)	Write a short note on belt conveyor system of transportation.	04
	(c)	What do you mean by overcastting? Explain the overcastting by blasting with neat sketch.	07
		OR	<i>-</i> -
Q.3	(a)	Explain the multi row blasting with neat sketch.	03
	(b)	What are the advantages and disadvantages of surface	04
	(6)	mining over underground mining? Write a short note on pine line transportation. Also enlist	07
	(c)	Write a short note on pipe line transportation. Also enlist	07
ΩA	(o)	the advantage of it over other transportation system. Draw a table which describes the different shovel-dumper	03
Q.4	(a)	combinations with respect to minimum production/day	US

	(b)	Draw a flow chart of different operations of open cast mining.	04
	(c)	Criteria for selection and performance of different types of	07
		drilling equipments	
		OR	
Q.4	(a)	Draw a table which describes the bucket capacity of draglines with respect to minimum production/day.	03
	(b)	Enlist the types of haul road. Explain any one with neat sketch.	04
	(c)	Describe the different machineries required for the surface mine operation with its application.	07
Q.5	(a)	Describe the factors influencing the stability of slopes.	03
	(b)	Write a short note on the application of reclaimers.	04
	(c)	Enlist the different types of slope failures. Explain any one.	07
		OR	
Q.5	(a)	Draw a flow diagram of mineral extraction & mineral	03
	(1)	transportation in open cast mining.	0.4
	(b)	Write a short note on the mechanics of the slope failure.	04
	(c)	Enlist the different types of shovel. Explain any one.	07
