

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2018****Subject Code:2152206****Date:27/11/2018****Subject Name:Underground coal Mining****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.

		<b>MARKS</b>
<b>Q.1</b>	(a) What do you mean by stratified deposit? Write in brief.	<b>03</b>
	(b) What is stowing and write its merits and demerits.	<b>04</b>
	(c) Explain: Origin of coal and theories of it.	<b>07</b>
<b>Q.2</b>	(a) Write down the advantages and disadvantages of longwall mining methods.	<b>03</b>
	(b) Describe bord and pillar method with its advantages and disadvantages.	<b>04</b>
	(c) Write the factors influencing on choice of mining methods.	<b>07</b>
<b>OR</b>		
	(c) Give a classification of underground coal mining with its brief discussions of each.	<b>07</b>
<b>Q.3</b>	(a) Explain: size of pillar	<b>03</b>
	(b) Write down the restrictions on development of mine.	<b>04</b>
	(c) Explain the development of bord and pillar working using continuous miner and coal cutting machine.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Explain: size of panels	<b>03</b>
	(b) Explain: Working of Continguous seams.	<b>04</b>
	(c) Write down the principles of pillar extraction techniques with its problems.	<b>07</b>
<b>Q.4</b>	(a) Explain: Variants of longwall face layouts.	<b>03</b>
	(b) Explain: Length of longwall face.	<b>04</b>
	(c) Which are the influenced factors for layout of longwall faces?	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Explain: Direction of face advance.	<b>03</b>
	(b) Classification of Modern longwall faces.	<b>04</b>
	(c) Elements of longwall face.	<b>07</b>
<b>Q.5</b>	(a) Explain: Principle of stowing.	<b>03</b>
	(b) Describe: Hand packing stowing method.	<b>04</b>
	(c) Describe a hydraulic stowing with its applicability and preparatory arrangement via brief discussion.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Explain: Hydraulic Profile	<b>03</b>
	(b) Explain: Rate of stowing	<b>04</b>
	(c) Draw a neat sketch of general arrangement of a sand stowing with its brief discussion.	<b>07</b>

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