

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER- III (New) EXAMINATION – WINTER 2019****Subject Code: 2132203****Date: 5/12/2019****Subject Name: Geology-I****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.

		<b>MARKS</b>
<b>Q.1</b>	(a) Define geology and discuss the role of geology in mining engineering.	<b>03</b>
	(b) Enlist various branches of geology. Describe any two branches in detail.	<b>04</b>
	(c) Describe the basic Principles of Stratigraphy.	<b>07</b>
<b>Q.2</b>	(a) Explain Dip and Strike of a bed with help of a sketch.	<b>03</b>
	(b) Define the terms - mineral, rock, gangue and erosion.	<b>04</b>
	(c) Describe the important physical properties of minerals giving examples.	<b>07</b>
<b>OR</b>		
	(c) Describe physical properties of magnetite, quartz and calcite and diamond.	<b>07</b>
<b>Q.3</b>	(a) Discuss the application of Plate Tectonic Theory.	<b>03</b>
	(b) Describe the erosional features developed due to action of wind.	<b>04</b>
	(c) What is weathering of rocks? Describe the processes of Frost Action and Thermal Weathering with examples.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) What are rock forming minerals?	<b>03</b>
	(b) What are faults? Give the classification of faults with neat sketches.	<b>04</b>
	(c) Reproduce the Geological Timescale of India.	<b>07</b>
<b>Q.4</b>	(a) Describe symmetrical and asymmetrical folds.	<b>03</b>
	(b) Write a note on glacial deposits.	<b>04</b>
	(c) Explain the terminology of a typical fold with a neat diagram.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Write a note on continental drift and mid oceanic ridges.	<b>03</b>
	(b) Give the importance of geological maps and cross-sections.	<b>04</b>
	(c) What are unconformities? Describe types of unconformities with sketches.	<b>07</b>
<b>Q.5</b>	(a) Discuss the role of remote sensing technique in mining engineering.	<b>03</b>
	(b) Describe the rocks of Vindhyan Supergroup.	<b>04</b>
	(c) Describe the processes of river erosion.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Write a note on subsurface exploration with pitting, trenching, shaft sinking and adits.	<b>03</b>
	(b) Give the classification of drilling methods.	<b>04</b>
	(c) Discuss the advantages and limitations of exploration through drilling methods.	<b>07</b>

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