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# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## January / February 2025 Semester End Main Examinations

**Programme: B.E.**

**Semester: III**

**Branch: CIVIL ENGINEERING**

**Duration: 3 hrs.**

**Course Code: 19CV3ESGEO**

**Max Marks: 100**

**Course: ENGINEERING GEOLOGY**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

			<b>UNIT - I</b>		<b>CO</b>	<b>PO</b>	<b>Marks</b>
<b>Important Note:</b> Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.	1	a)	Describe importance of Engineering Geology in the planning and execution field of civil Engineering projects.		CO1 PO1 PO2		<b>10</b>
		b)	Explain with a neat sketch the internal structure and composition of the Earth.		CO1 PO1 PO2		<b>10</b>
			<b>OR</b>				
	2	a)	Define a Minerals? Explain the following physical properties of minerals with suitable examples. (i) Habit/Form (ii)Streak (iii)Hardness (iii) Diaphaneity		CO1 PO1 PO2		<b>10</b>
		b)	Write the Chemical composition and uses of the following minerals. (i) Orthoclase (ii) Pyrite (iii) Magnetite iv) Calcite		CO1 PO1 PO2		<b>10</b>
			<b>UNIT - II</b>				
	3	a)	Describe the formation process of igneous rocks? Write the index properties of any two the following rocks. (i) Basalt (ii) Limestone (iii) Gneiss		CO1 PO1 PO2		<b>10</b>
		b)	Define Sedimentary rocks? Explain with neat sketches the primary structure of Sedimentary rocks.		CO1 PO1 PO2		<b>10</b>
			<b>OR</b>				
	4	a)	Define metamorphism? Mention the agents of metamorphism. Describe the kinds of metamorphism with rock example.		CO1 PO1 PO2		<b>10</b>
		b)	Describe the process of Weathering? Explain the types of weathering.		CO1 PO1 PO2		<b>10</b>

<b>UNIT - III</b>					
5	a)	Define a Dam? Explain in detail the geological investigation of a good dam site.	CO2	PO1 PO2	<b>10</b>
	b)	Discuss the scope and objectives of Tunnel? Describe the geological consideration for successful tunneling.	CO2	PO1 PO2	<b>10</b>
<b>OR</b>					
6	a)	Define Earthquake? Explain the causes and effects of earthquakes.	CO2	PO1 PO2	<b>10</b>
	b)	How landslides are caused? Explain the preventive measures of Landslide.	CO2	PO1 PO2	<b>10</b>
<b>UNIT - IV</b>					
7	a)	Explain the phenomenon of Folding? Draw a neat diagram of the folds and describe the different parts.	CO2	PO1 PO2	<b>10</b>
	b)	Explain the different types of folds base on position of axial plane and angle of limbs.	CO2	PO1 PO2	<b>10</b>
<b>OR</b>					
8	a)	Describe the term of Faulting? Explain with neat sketches the different parts of faults. Add a note on Horst and Graben fault.	CO2	PO1 PO2	<b>10</b>
	b)	Define Joints? Explain different types of joints.	CO2	PO1 PO2	<b>10</b>
<b>UNIT - V</b>					
9	a)	Explain with neat sketches the vertical distribution of ground water.	CO3	PO1 PO2	<b>10</b>
	b)	Define an Aquifers? Explain With neat sketch types of Aquifers.	CO3	PO1 PO2	<b>10</b>
<b>OR</b>					
10	a)	Explain groundwater investigation by Electrical Resistivity method (VES).	CO4	PO1 PO2	<b>10</b>
	b)	Describe the methods adopted for artificial recharge of ground water,	CO4	PO1 PO2	<b>10</b>

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