

**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR  
(AUTONOMOUS)**

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**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code: Engineering Geology (23CE0111)**

**Course & Branch: B.Tech & CE**

**Year & Sem: II B.Tech & II Sem**

**Regulation: R23**

**UNIT –I  
INTRODUCTION**

1	a)	Define geology?	[L1][CO1]	[02M]
	b)	Define weathering?	[L1][CO1]	[02M]
	c)	Write the types of weathering.	[L1][CO1]	[02M]
	d)	What are the three main geological processes performed by rivers?	[L1][CO1]	[02M]
	e)	Which agent is most responsible for chemical weathering?	[L1][CO1]	[02M]
2	a)	Define geology and list out the different branches of geology?	[L1][CO1]	[05M]
	b)	State importance of geology in civil engineering?	[L2][CO1]	[05M]
3		Explain the brief study of some civil engineering constructions due to geological drawbacks.	[L2][CO1]	[10M]
4		Describe the role of geology in the design and construction of dams, tunnels, and highways.	[L2][CO1]	[10M]
5		Describe the different branches of geology and their relevance to civil engineering.	[L2][CO1]	[10M]
6		What is weathering? Enumerate the various mechanisms of rock weathering?	[L2][CO1]	[10M]
7		What are the main types of geological agents? And explain chemical weathering.	[L2][CO1]	[10M]
8		Discuss physical weathering in detail and explain the natural factors responsible.	[L3][CO1]	[10M]
9		Why is the river the most important geological agent? What are the limitations of other geological agent like wind, glacial and ocean?	[L2][CO1]	[10M]
10		Describe the three types of weathering with appropriate examples and processes involved.	[L3][CO1]	[10M]
11	a)	Explain the three main geological processes performed by rivers: erosion, transportation, and deposition.	[L2][CO1]	[05M]
	b)	Explain chemical and biological weathering.	[L4][CO1]	[05M]

**UNIT –II**  
**MINERALOGY AND PETROLOGY**

1	a)	Define mineral?	[L1][CO2]	[02M]
	b)	Define rock?	[L1][CO2]	[02M]
	c)	Write examples of igneous rock.	[L1][CO2]	[02M]
	d)	Write examples of sedimentary rock.	[L1][CO2]	[02M]
	e)	Write examples of metamorphic rock.	[L1][CO2]	[02M]
2		Define mineral and explain the various physical properties of minerals?	[L1][CO2]	[10M]
3	a)	Explain different methods of study of minerals.	[L1][CO2]	[05M]
	b)	Discuss the following important properties which are useful for the identification of minerals? i)Form ii)Luster iii)Specific gravity iv)Degree of transparency	[L1][CO2]	[05M]
4	a)	Write the physical properties of Feldspar and Quartz.	[L1][CO2]	[05M]
	b)	Write the physical properties of Graphite and Pyrite.	[L1][CO2]	[05M]
5	a)	Write the physical properties of Olivine and calcite.	[L1][CO2]	[05M]
	b)	Write the physical properties of Bauxite and Chlorite.	[L1][CO2]	[05M]
6		Define term “rock”. Describe the classification of rocks.	[L1][CO2]	[10M]
7	a)	Describe the various types of Structures associated with Igneous rocks .	[L2][CO2]	[05M]
	b)	Write short note on megascopic study for the following rocks i)Granite ii)Basalt	[L1][CO2]	[05M]
8	a)	Describe the various types of Structures associated with sedimentary rocks.	[L2][CO2]	[05M]
	b)	Write short note on megascopic study for the following rocks i)Sand stone ii)Lime stone	[L1][CO2]	[05M]
9	a)	Describe the various types of Structures associated with metamorphic rocks .	[L2][CO2]	[05M]
	b)	Write short note on megascopic study for the following rocks i)Quartzite ii)Marble	[L1][CO2]	[05M]
10	a)	What are the main types of igneous rocks based on their formation?	[L1][CO2]	[05M]
	b)	Describe the megascopic properties of pegmatite and Dolerite.	[L1][CO2]	[05M]
11	a)	Write the physical properties of Biotite mica and muscovite mica.	[L2][CO2]	[05M]
	b)	Write the physical properties of Galena and Magnetite.	[L1][CO2]	[05M]

### UNIT-III

### STRUCTURAL GEOLOGY

<b>1</b>	<b>a)</b>	Define fold?	[L1][CO3]	[02M]
	<b>b)</b>	Define fault?	[L1][CO3]	[02M]
	<b>c)</b>	Define joint?	[L1][CO3]	[02M]
	<b>d)</b>	Define unconformity?	[L1][CO3]	[02M]
	<b>e)</b>	Define term strike?	[L1][CO3]	[02M]
<b>2</b>	<b>a)</b>	Explain the terms strike and dip.	[L2][CO3]	[05M]
	<b>b)</b>	Define fold? Explain the different parts of folds with the help of neat sketches?	[L1][CO3]	[05M]
<b>3</b>	<b>a)</b>	Explain the major types of folds with the help of neat sketches?	[L2][CO3]	[05M]
	<b>b)</b>	Importance of folds in civil engineering point of view.	[L1][CO3]	[05M]
<b>4</b>	<b>a)</b>	Classify and describe the different types of faults?	[L1][CO3]	[05M]
	<b>b)</b>	Importance of faults in civil engineering point of view.	[L1][CO3]	[05M]
<b>5</b>	<b>a)</b>	What are joints? Discuss the various types of joints.	[L1][CO3]	[05M]
	<b>b)</b>	Importance of joints in civil engineering point of view.	[L1][CO3]	[05M]
<b>6</b>	<b>a)</b>	What is an Unconformity? Describe different types of unconformities.	[L1][CO4]	[05M]
	<b>b)</b>	Write a note on the Importance of unconformity	[L1][CO4]	[05M]
<b>7</b>	<b>a)</b>	Explain the different parts of folds with the help of neat sketches?	[L2][CO4]	[05M]
	<b>b)</b>	Explain the following terms: i) Anticline And Syncline ii) symmetric and asymmetric fold	[L2][CO4]	[05M]
<b>8</b>		What are the important parts of a fault? How do they help in identifying fault types in the field?	[L1][CO4]	[10M]
<b>9</b>	<b>a)</b>	Differentiate between joints and faults. How are joints classified?	[L2][CO4]	[05M]
	<b>b)</b>	Classify and describe the different types of joints .	[L2][CO4]	[05M]
<b>10</b>		Discuss the overall importance of understanding structural features like folds, faults, joints, and unconformities in civil engineering projects.	[L1][CO4]	[10M]
<b>11</b>		Explain how unconformities are identified in the field and their importance in geological mapping.	[L2][CO4]	[10M]

**UNIT-IV****GROUND WATER, EARTHQUAKES AND LAND SLIDES, GEOPHYSICS**

<b>1</b>	<b>a)</b>	Define the term Ground water?	[L1][CO5]	[02M]
	<b>b)</b>	Define an earthquake?	[L1][CO5]	[02M]
	<b>c)</b>	Define landslides?	[L1][CO5]	[02M]
	<b>d)</b>	Name any four geophysical methods.	[L1][CO5]	[02M]
	<b>e)</b>	State the principle of the gravity method.	[L1][CO5]	[02M]
<b>2</b>		Explain the process of formation of ground water table.	[L2][CO5]	[10M]
<b>3</b>		Importance of various geological factors which influence the movement of ground water.	[L2][CO5]	[10M]
<b>4</b>		Various geological ,geophysical and hydrological factors taken into consideration while carrying out ground water exploration.	[L3][CO5]	[10M]
<b>5</b>	<b>a)</b>	Define an earthquake. And classify it.	[L1][CO5]	[05M]
	<b>b)</b>	What are the causes and effects of earthquakes?	[L2][CO5]	[05M]
<b>6</b>	<b>a)</b>	Compare the tectonic activity with shield areas and seismic belts.	[L3][CO5]	[05M]
	<b>b)</b>	Describe the precautions of building constructions in seismic areas?	[L2][CO5]	[05M]
<b>7</b>	<b>a)</b>	Define landslides. And explain classification of earth movements .	[L1][CO5]	[05M]
	<b>b)</b>	What are the causes and effects of landslides?	[L2][CO5]	[05M]
<b>8</b>	<b>a)</b>	What are the measures to be taken their occurrence at Landslides.	[L3][CO5]	[05M]
	<b>b)</b>	Describe Gravity method in terms of the principle, physical property, procedures, equipment and uses.	[L2][CO5]	[05M]
<b>9</b>	<b>a)</b>	What is the importance of Geophysical methods.	[L2][CO5]	[05M]
	<b>b)</b>	Classification of Geophysical methods and explain any one.	[L2][CO5]	[05M]
<b>10</b>	<b>a)</b>	Describe Magnetic method in terms of the principle, physical property, procedures, equipment and uses.	[L2][CO5]	[05M]
	<b>b)</b>	Describe Radiometric method in terms of the principle, physical property, procedures, equipment and uses.	[L2][CO5]	[05M]
<b>11</b>	<b>a)</b>	Describe Electrical method in terms of the principle, physical property, procedures, equipment and uses.	[L2][CO5]	[05M]
	<b>b)</b>	Describe Seismic method in terms of the principle, physical property, procedures, equipment and uses.	[L2][CO5]	[05M]

**UNIT-V**  
**GEOLOGY OF DAMS, RESERVOIRS AND TUNNELS**

<b>1</b>	<b>a)</b>	What is a dam? Mention any two types of dams.	[L1][CO6]	[02M]
	<b>b)</b>	Define reservoir.	[L1][CO6]	[02M]
	<b>c)</b>	What is tunneling?	[L1][CO6]	[02M]
	<b>d)</b>	Name any two geological considerations for selecting a dam site.	[L1][CO6]	[02M]
	<b>e)</b>	What is the importance of tunnel lining?	[L1][CO6]	[02M]
<b>2</b>		What are the parts of a dam, types of dams and different purposes of dam construction?	[L1][CO6]	[10M]
<b>3</b>		What are the geological considerations for selecting a suitable dam site?	[L2][CO6]	[10M]
<b>4</b>		Describe and discuss the following: i) Geological consideration in the successful reservoir ii) Life of reservoir	[L2][CO6]	[10M]
<b>5</b>	<b>a)</b>	Write the purposes of tunneling.	[L1][CO6]	[05M]
	<b>b)</b>	What are the effects of tunneling on the ground?	[L2][CO6]	[05M]
<b>6</b>		What is meant by lining? Discuss the lithological and structural reasons that necessitate lining.	[L2][CO6]	[10M]
<b>7</b>		On the basis of the geological background discuss the suitability or unsuitability of common igneous, sedimentary and metamorphic rocks for tunneling.	[L2][CO6]	[10M]
<b>8</b>		What is the role of ground water in the success of tunneling?	[L2][CO6]	[10M]
<b>9</b>		Describe the geological consideration for successful tunneling.	[L2][CO6]	[10M]
<b>10</b>		What is overbreak in tunneling? How is it different from a pay line?	[L2][CO6]	[10M]
<b>11</b>		Explain the role and importance of geological structures at the tunnel site.	[L2][CO6]	[10M]

**Prepared by : A.Jyoshna, Assistant professor, CE.**