



**SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR**

Siddharth Nagar, Narayanavanam Road – 517583

(AUTONOMOUS)

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code :** ENGINEERING GEOLOGY(18CE0108)

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

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

**Regulation:** R18

**UNIT –I**

**INTRODUCTION**

1. Define geology and explain different branches of geology? 10M
2. Explain the scope and importance of geology in civil engineering works? 10M
3. Explain the brief study of case histories of failure of some civil engineering constructions due to some geological drawbacks? 10M
4. What is weathering? Enumerate the various mechanisms of rock weathering. Describe chemical Weathering in detail? 10M
5. Distinguish between weathering and erosion. Describe the various process of weathering? 10M
6. Write in detail about the structure of the earth and composition with a neat diagram. 10M
7. What are the differences between chemical weathering and physical weathering? 10M
8. How do civil engineers determine the extent of weathering pattern in major in major civil engineering constructions? 10M
9. How is Geology related to Engineering? Discuss the scope of application of geological knowledge in the planning work? 10M
10. Explain the process of weathering of common rock like Granite? 10M



**SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR**

Siddharth Nagar, Narayanavanam Road – 517583

(AUTONOMOUS)

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code :** ENGINEERING GEOLOGY(18CE0108)

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

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

**Regulation:** R18

**UNIT –II**

**MINERALOGY**

1. Give a detailed account on chemical composition, physical properties, origin, occurrence, engineering behaviour and uses of clay minerals. 10M
2. a) Explain why the study of minerals by physical properties in advantage. 10M  
b) Write the physical properties of (i) Garnet. (ii) Hematite.
3. Explain the important physical properties of minerals that are commonly studied for their identification? 10M
4. What are secondary minerals? How are formed? Add a note on their significance in rocks? 10M
5. Describe the following minerals. Mention their chemical composition and add a note on how they are identified in rocks. 10M  
a) Quartz.            b)Orthoclase Feldspar.            c) Garnet.            d) Biotite mica.
6. a) Name atleast four clay minerals and their important engineering properties. 10M  
b) Define Hardness, Fracture and Specific gravity
7. Write short notes on the following 10M  
a) Moh's scale of hardness  
b) Polymorphism  
c) Isomorphism
8. What is a mineral? Describe in detail the physical properties of minerals. Add note on the feldspar group of minerals. 10M
9. What is a rock forming mineral? Discuss process of formation of minerals in nature. 10M
10. Write note on different physical properties of minerals and state how these are useful in the accurate identification of the mineral species. 10M



**SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR**

Siddharth Nagar, Narayanavanam Road – 517583

(AUTONOMOUS)

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code :** ENGINEERING GEOLOGY(18CE0108)

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

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

**Regulation:** R18

**UNIT –III**

**PETROLOGY**

- |   |     |
|---|-----|
| 1. Define term “rock” Describe the classification of rocks & their characteristics?   | 10M |
| 2. Describe the following rocks?  | 10M |
| a) Granite    b) Pegmatite    c) Sand stone    d) Marble  |     |
| 3. a) What is metamorphism? Discuss the various agents of metamorphism?   | 10M |
| b) Why heat is considered the most important agent of metamorphism?   |     |
| 4. Explain the classification of sedimentary rocks giving suitable example?   | 10M |
| 5. What are extrusive and intrusive igneous rocks? Describe their salient features?   | 10M |
| 6. a) Foremation of sedimentary rocks   | 10M |
| b) Write about the occurrence of granite?   |     |
| 7. Explain the structures and textures of sedimentary rocks?  | 10M |
| 8. Describe the columnar, flow and sheet structures of igneous rocks.   | 10M |
| 9. Write detailed note on   | 10M |
| a) Rock cycle   |     |
| b) Magma  |     |
| 10. In what way the granite, limestone and marble are used on the basis of their civil engineering applications? Add their mechanical properties. | 10M |



**SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR**

Siddharth Nagar, Narayanavanam Road – 517583

(AUTONOMOUS)

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code :** ENGINEERING GEOLOGY(18CE0108)

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

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

**Regulation:** R18

**UNIT –IV**

**STRUCTURAL GEOLOGY**

**&GROUND WATER.**

1. Classify and describe the different types of faults? Give the various minor structures found In the fault Zones? Discuss the effects of faulting on various engineering projects? 10M
2. a) What is an anticline? How do you differentiate asymmetrical anticline from asymmetrical Anticline?  
b) What is a monocline? How is an isoclinal fold different from a monocline? 10M
3. What is an Unconformity? Describe different types of unconformities. Add a note on the Importance of unconformity? 10M
4. Describe in detail various components of the hydrological cycle. Add a note on the factors controlling the movement of ground water? 10M
5. What is a water table? What are types of ground water? Which occur in the zone of aeration and saturation? 10M
- 6.a) Explain various investigation uses in groundwater exploration  
b) Explain the engineering significance of ground water. 10M
- 7). With a neat sketch, describe a clinometer-compass and write a note on its uses. And explain True dip and Apparent dips? 10M
- 8) Write short notes on:  
a)Types of aquifers b) Types of springs c) Cone of depression
9. Explain the different types of folds with the help of neat sketches? 10M
10. a) Define ground water? Write an essay on origin and distribution of ground water?  
b) Explain briefly about Electrical Resistivity method 10M



**SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR**

Siddharth Nagar, Narayanavanam Road – 517583

(AUTONOMOUS)

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code :** ENGINEERING GEOLOGY((18CE0108      **Course & Branch:** B.Tech - CE

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

**Regulation:** R18

**UNIT –V**

**EARTH QUAKE AND LAND SLIDES ,GEOLOGY OF DAMS, RESERVIORS AND TUNNELS**

1. what are dams and reservoirs? Explain the purpose of construction of major dams and reservoirs in India.
- 2.a) Describe the various effects of an earthquake? How do we locate the epicenter of an earth quake?
  - b) What are surface waves? Explain Rayleigh and love waves? 10M
3. Enumerate the various types of landslides and explain the causes of landslides and preventive Measures to be taken to prevent the landslides? 10M
4. a) What are landslides? Describe the causes and methods to prevent them? 10M
  - b) How are landslides measured
- 5 a) Explain the geological structural controls on selection of dam site. 10M
  - b) Explain the methods to control reservoir silting.
6. Explain the geological factors influencing water tightness and life of reservoirs? 10M
- 7 a) What are the geological considerations necessary in the selection of dam site? 10M
  - b) Explain the geological causes of failure with a few cases of histories?
8. What is a tunnel? Explain the terms that are used in tunnels with neat sketches? Explain the purpose of tunnelling? 10M
- 9 .What are the various geological factors to be considered for the construction of tunnels? Explain in detail with examples? 10M
- 10 a) Explain the relationship between valley topography and types of dams.
  - b) List out the factors contributing to the success of a reservoir?

**TWO MARK QUESTIONS****UNIT –I****INTRODUCTION**

- 1). Discuss different kinds of weathering?
- 2). Discuss any five applications of geology in civil engineering works.
- 3). What is weathering? Explain types of weathering.
- 4). Explain importance of geology in civil engineering.
- 5). Define rock weathering.
- 6). Write a note on weathering agents.

**UNIT –II****MINERALOGY**

- 1). Describe the cleavage of minerals.
- 2). Distinguish between Magnetite and Haematite
- 3). Write a note on Rock forming minerals.
- 4). Explain the following physical properties of minerals.  
(i) Lustre. (ii) Fracture.
- 5). Write note on: (i) Biotite. (ii) Garnet.
- 6.) Discuss cleavage and diaphaneity

**UNIT –III****PETROLOGY**

- 1) Differentiate dykes & sills.
- 2) Enumerate the important silica based igneous rocks.
- 3) Write a note on engineering properties of rocks as an aggregate for road construction.
- 4) Differentiate acidic & basic rocks.
- 5) Define texture & structure
- 6) Define petrology

**UNIT –IV****STRUCTURAL GEOLOGY & GROUND WATER**

- 1). Explain types of joints.
- 2). What is ground water? Explain.
- 3). Write a note on springs.
- 4). Define dip and strike.
- 5). Write a short note on water table.
- 6). Define structural geology

**UNIT –V****EARTH QUAKE AND LAND SLIDES ,GEOLOGY OF DAMS, RESERVIORS  
AND TUNNELS**

- 1).Write a note on seismic waves
- 2). Define landslides
- 3). What are seismic waves? How are they generated?
- 4). List the methods to improve the competency of soils by grouting
- 5). What are the various forces acting on dam?
- 6). What are the different types of tunnels?
- 7).Give the effects of earthquake