

Applied Geology Question Bank

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Subject Name : AG2211 APPLIED GEOLOGY  
Year : II  
Degree & Branch : B.E. –Civil Engineering

UNIT I

PART-A:

1. What is Exfoliation?
2. Differentiate between water table & perched water table.
3. Define the term aquifer & Mention its types.
4. What is meant by an subduction zone: What is its significance.
5. What is difference between an aquifer & an aquiclude?
6. Write short note on mercalli scale.
7. Explain the term plate tectonics & its significance.
8. List and describe two coastal protection structures.
9. Describe the interior of the earth.
10. What is meant by chemical weathering?
11. What is meant by petrology
12. Explain the terms:
  1. Confined aquifer.
  2. Unconfined aquifer.

PART –B:

- 1) Describe the earth structure & composition with neat diagram.
- 2) Give an account on mode of occurrence & prospecting of ground water.
- 3) Describe the detail about plate tectonics & continental drift.
- 4) Write an essay on “ Weathering of rocks & its importance in Engg coal structing”
- 5) Give an detailed account of the earthquake belts in India.
- 6) Write a short note of geology & geo technical engineering in coastal defence.
- 7) Describe the physical & chemical weathering process? Add a note on weathering grade & its role in engineering projects.
- 8) Explain the work of rivers, winds, sea & their engineering importance.

## UNIT II

## PART –A:

- 1) Write the symmetry elements of normal class of isometric system?
- 2) Write the hardness of calcite and apatite minerals?
- 3) What is moh's scale of hardness of minerals?
- 4) With example from the mineral kingdom, describe the characteristic of orthorhombic system and list its symmetry elements?
- 5) List the important properties and uses of calcite?
- 6) Name at least four clay minerals and their important engineering properties.
- 7) Explain the properties & uses of calcite.
- 8) What are the symmetry elements of triclinic system of crystallization?
- 9) Give the hardness of mica.
- 10) Write the characteristics of isometric system.
- 11) What is meant by ore minerals?
- 12) List the properties of petroleum bearing reservoir rocks.

## PART-B:

1. Describe the various physical properties of minerals give examples from the minerals kingdom for each of the property.
2. Write the physical properties of
  1. Quartz Family
  2. Feldsper Family
  3. Augite
  4. Hornblende
  5. Biotite
  6. Muscorite
  7. Calcite
  8. Garnet
3. Write a short note on
  1. Coal and Petroleum –Their origin & Occurrence in India?
4. Give a detailed account of the chemical composition physical properties, origin, occurrence, engineering behavior & uses of the clay minerals.

## UNIT III

## PART –A

1. Describe any two metamorphic rocks.
2. Describe the composition, texture, characteristics, occurrence & uses of 'Black Granite'.
3. What are the factors controlling the specific gravity, porosity & strength of rocks.
4. List the tests to be carried out to determine the properties of building stones.
5. What is black granite? List its uses?
6. How igneous rocks are classified according to their occurrences?
7. Bring out the essential differences between the engineering properties of granite & slate.
8. What are the textures of sedimentary rocks?
9. What is dolerite? List its uses.
10. What are igneous rocks? Give a suitable example.
11. What are Sedimentary rocks? Give a suitable example.
12. What are metamorphic rocks? Give a suitable example.
13. What is ductility of rocks?
14. Write about the mineral composition, origin & properties & uses of basalt.
15. Bring out the difference between dolerites & pegmatite.

## PART-B:

1. How igneous, Sedimentary & metamorphic rocks formed?
  1. Classification
  2. Textures
  3. Chemical Composition
  4. Structures
  5. Mineralogical composition
  6. Formation
2. Write the properties of igneous rocks?
 

1. Granite	5. Pegmatite
2. Syenite	6. Dolerite
3. Diorite	7. Basalt
4. Gabbro	
3. Write the properties of Sedimentary rocks ?
  1. Sand Stone
  2. Lime Stone
  3. Shale
  4. Conglo
  5. Conglomerate
  6. Breccia
4. Write the properties of metamorphic rocks?

1. Quartzite
  2. marble
  3. Slate
  4. Phyllite
  5. Gneiss
  6. Schist
5. List the various laboratory & field tests to be carried out to determine the engineering properties of rock

UNIT IV

PART –A

1. Define the terms strike & Dip of rocks.
2. Describe the recumbent fold & overturn fold structures.
3. List at least four differences between anticlines & synclines.
4. Describe the wenner's configuration of electrodes in electrical resistivity surveys.
5. What is meant by joints in rocks? What is their engineering significance.
6. What are Joints? List their engineering significance.
7. What are Folds? List the engineering significance.
8. What are Faults? List the engineering significance.
9. What is the difference between the wenner & schlumberger methods.

PART-B:

1. What is meant by folds? Explain the engineering significance of folds.
2. What is meant by Fault? Explain the engineering significance of fault.
3. What is meant by Joints? Explain the engineering significance of joints.
4. Explain in detail the role of electrical methods of sub-surface investigation in civil engineering practice.
5. Describe seismic refraction survey to be conducted for determining depth of bed rock.

UNIT V  
PART-A

1. What is stand up time & Pay line in dam construction.
2. Differentiate between swelling ground & running ground in construction site..
3. Explain the terms parallax & overlap in aerial photographs.
4. List at least four methods to prevent land slides.
5. List the various coastal protection structures.
6. What are the various type of aerial photographs.
7. Explain how the study of bed rocks is essential before the construction of tunnels.
8. What is meant by the term over breaks & pay line in tunneling operations?
9. Write the applications of remote sensing techniques.
10. What are multipurpose dams?
11. Give the functions of break water.

PART-B:

1. Write notes on landslides & give an account of the measures adopted to prevent the slides.
2. What are the various geological factors to be considered for the construction of dams, tunnels, building, & road cutting? Explain each factor in detail with examples from India & abroad.
3. Explain in detail the role of aerial photographs & satellite images in planning & execution of civil engineering projects.
4. Write a short note on :
  1. Sea erosion
  2. Coastal protection structures.

ALL THE BEST