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**Question Paper Code: 43013**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Third Semester

Civil Engineering

14UCE303 - ENGINEERING GEOLOGY

(Regulation 2014)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

- New sea floor is created at
  - Deep sea trench
  - Mid-oceanic ridge
  - Subduction zone
  - Transform fault
- Mohorovicic discontinuity separates
  - Core and mantle
  - Crust and mantle
  - Inner core and outer core
  - Sima and nife
- What is the hardness of Quartz?
  - 1
  - 7
  - 6
  - 5
- The crystal system of Anorthite in feldspar family is
  - Monoclinic
  - Triclinic
  - Cubic
  - Hexagonal
- Sedimentary rocks are formed when sediments become compressed and cemented together in a process known as
  - Crystallisation
  - Sedimentation
  - Solidification
  - Lithification

6. Which one of them is used for architecture work?  
 (a) Limestone      (b) Shale      (c) Marble      (d) None of these
7. Folds in which one limb inclines moderately with regular slope while the other inclines steeply at right angle and the slope is almost vertical are known as  
 (a) Isoclinal      (b) Monoclinical      (c) Recumbent      (d) Asymmetrical
8. Geophone are used in\_\_\_\_\_ survey.  
 (a) Seismic      (b) Geochemical      (c) Gravity      (d) Electrical
9. The refractive index of the ocean water is  
 (a) Increases with salinity      (b) Increases with temperature  
 (c) Decreases with temperature      (d) Decreases with salinity
10. Arrangement of aerial photograph referred as  
 (a) aerial mosaic      (b) tilted photograph  
 (c) horizontal photograph      (d) spatial signature

PART - B (5 x 2 = 10 Marks)

11. Define Plate tectonics.
12. Name the physical properties of minerals.
13. List out the factor affecting texture in a rock.
14. Mention the uses of geological map.
15. List out the applications of remote sensing.

PART - C (5 x 16 = 80 Marks)

16. (a) Describe the origin and occurrence of groundwater. (16)

Or

- (b) Write about the geological work of wind and their engineering consideration. (16)

17. (a) Write the physical properties and uses of the following minerals  
(i) Rock crystal      (ii) Augite      (iii) Biotite      (iv) Calcite      (16)

Or

- (b) (i) Explain about any four physical properties of minerals.      (8)  
(ii) Write a short note on atomic structure of silicate group.      (8)
18. (a) Explain briefly about factors and effects metamorphism.      (16)

Or

- (b) Distinguish igneous, sedimentary and metamorphic rock.      (16)
19. (a) Describe the Wenner and Schlumberger configuration in electrical resistivity surveying for civil engineering investigation.      (16)

Or

- (b) Explain the parts of a fault. Bring out the important types of faults with neat diagrams.      (16)
20. (a) Write short essay on the utilization aspect of geology in engineering.      (16)

Or

- (b) Classify landslides and discuss about the causative factors of landslides. Also add a note on the measures for mitigation of landslides.      (16)
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