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**Question Paper Code: 43103**

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

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)

- Abrasion by the river is related to which of the following process
  - transportation
  - erosion
  - deposition
  - disintegration
- Chemical weathering is most prominent in
  - Arid region
  - Semi-arid region
  - Humid tropical region
  - Mediterranean region
- Which mineral is used for generating atomic or nuclear power
  - Coal
  - Bauxite
  - Uranium
  - Copper
- Which out of the following minerals is formed by the decomposition of surface rocks, and leaves a residual mass of weathered material
  - Gold
  - Bauxite
  - Zinc
  - Coal
- Igneous rocks with high concentration of Mg and Fe are likely to have formed from magmas originally derived from
  - SIAL
  - SIMA
  - MANTLE
  - Outer Core
- Which one of them is used for architecture work?
  - Limestone
  - Shale
  - Marble
  - None of these

7. The amount of ground displacement in a earthquake is called the  
 (a) epicenter          (b) dip                  (c) slip                  (d) focus
8. Dip of a bed is a vector quantity because it has got  
 (a) Direction                                  (b) Magnitude  
 (c) Direction and magnitude              (d) None of these
9. The part where the dam comes in contact with ground on upstream side is  
 (a) Heel                  (b) Toe                  (c) Base                  (d) None of these
10. The refractive index of the ocean water is  
 (a) Increases with salinity                                  (b) Increases with temperature  
 (c) Decreases with temperature                              (d) Decreases with salinity

PART - B (5 x 2 = 10 Marks)

11. Define Plate tectonics.
12. List the properties of quartz.
13. Define Magma and Lava.
14. Mention the uses of geological map.
15. Distinguish between aerial photography and imageries.

PART - C (5 x 16 = 80 Marks)

16. (a) Describe the branches of Geology and their importance in civil engineering.          (16)

Or

- (b) (i) Define weathering and factor affecting weathering.                                  (8)  
 (ii) Describe in detail about plate tectonics                                                  (8)

17. (a) What are the rock forming minerals? Give a general account of their Chemical and Physical properties.                                                  (16)

Or

- (b) Compare and contrast the minerals of Pyroxene group to that of Amphibole group.                                                  (16)

18. (a) Write short notes on: (i) Granite (ii) Diorite (iii) Syerite (iv) Basalt (v) Gabbro. (16)

Or

(b) Explain briefly about factors and effects metamorphism. (16)

19. (a) Explain the parts of a fault. Bring out the important types of faults with neat diagrams. (16)

Or

(b) Explain in detail the role of electrical methods of sub-surface investigation in civil engineering practice. (16)

20. (a) Explain the geological requirements which will have to be investigated for selecting a site for a tunnel. (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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