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Question Paper Code: U3102

B.E./B.Tech. DEGREE EXAMINATION, NOV 2023

Third Semester

Civil Engineering

21UCE302- ENGINEERING GEOLOGY AND CONSTRUCTION MATERIALS

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (5 x 1 = 5 Marks)

- Specific gravity of Quartz is, CO1- U
(a) 3.15 (b) 2.65 (c) 3.75 (d) 2.50
- P and S waves also known as CO1- U
(a) Body waves (b) surface waves (c) Tidal waves (d) Moon waves
- The process of kneading brick earth is called CO3- Ana
(a) Pugging (b) Blending (c) Ramming (d) Tamping
- The increase in volume of dry sand when water is added is called CO1- U
(a) honey combing (b) bulking (c) segregation (d) bleeding
- The innermost central portion/core of tree is CO3- Ana
(a) Heart wood (b) Pith (c) Bark (d) Sap wood

PART – B (5 x 3= 15Marks)

- Give short notes about Slate. CO3- Ana
- Illustrate the effects of faulting. CO2- App
- Analyze the characteristics of good building stone CO3-Ana
- Differentiate the initial and final setting time of cement CO3-Ana
- Enumerate the various defects in timber. CO3-Ana

PART – C (5 x 16= 80 Marks)

11. (a) Extend in detail about the formation of rocks and its engineering importance. CO1- App (16)
- Or
- (b) Explain physical and chemical weathering process in detail. Add a note on weathering grade and its engineering significance. CO1- App (16)
12. (a) Mention the concept of plate tectonics and describe how earthquakes occur. Add a note on the distribution of earthquake in the world and in India. CO2- App (16)
- Or
- (b) Tell about geomorphological process of weathering and erosion by anyone case study. CO2- App (16)
13. (a) Discuss the criteria for selection of stones as a building material. CO1-U (16)
- Or
- (b) Compare the usage of bricks and stones in construction works CO1-U (16)
14. (a) Experiment with detail any four tests on cement. CO3- Ana (16)
- Or
- (b) Demonstrate the following tests are conducted on aggregate; as per IS codes CO3- Ana (16)
- (i) Aggregate impact test
- (ii) Crusing value test
15. (a) Illustrate with diagram for various defects in timber CO1-App (16)
- Or
- (b) Give a brief account of the different types of steel bars used in reinforced concrete construction CO1-App (16)