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**Question Paper Code: U3102**

B.E./B.Tech. DEGREE EXAMINATION, NOV 2024

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)

- Scale of hardness values between (Moh's scale) CO1- U  
(a) 1to10                      (b)5to10                      (c)10to20                      (d) 20to30
- Average Radius of the earth CO1- U  
(a) 6400Km                      (b)6700km                      (c)6371Km                      (d)6400m
- The number of standard bricks required for one cubic metre of brick masonry is CO1- U  
(a) 400                      (b) 500                      (c) 750                      (d) 250
- The initial setting time of ordinary Portland cement should not be less than CO1- U  
(a) 15 minutes                      (b) 30 minutes                      (c) 45 minutes                      (d) one hour
- Bessemer process is used for manufacturing of CO1- U  
(a) pig iron                      (b) cast iron                      (c) wrought iron                      (d) steel

PART – B (5 x 3= 15 Marks)

- Write about hardness and specific gravity. CO1- U
- What is meant by continental drift? CO1- U
- Explain in detail about the characterization of good building stones CO1- U
- What is meant by hydration of cement? CO1- U
- Discuss the causes of decay of wood work CO1- U

PART – C (5 x 16= 80Marks)

11. (a) What are the physical properties of Felspar and Pyroxene group of minerals? Describe it. CO1- U (16)
- Or
- (b) Predict the properties of minerals and their role in rock formation. CO1- U (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. CO1- U (16)
- Or
- (b) Explain composition of the earth structure with neat diagram CO1- U (16)
13. (a) Discuss the criteria for selection of stones as a building material. CO2- App (16)
- Or
- (b) With flowchart explain the manufacturing process of bricks. CO2- App (16)
14. (a) Construct a flow diagram for dry and wet process of manufacture of cement with brief explanation CO2- App (16)
- Or
- (b) Enumerate the methods of preparation of lime mortar. Describe any two major tests to determine the quality of lime. CO2- App (16)
15. (a) Illustrate with diagram for various defects in timber CO1- U (16)
- Or
- (b) Give a brief account of the different types of steel bars used in reinforced concrete construction CO1- U (16)