Reg. No. : | | | | | | | | | | |

Question Paper Code: 50132

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

Third Semester

Civil Engineering

15UCE302 - ENGINEERING GEOLOGY AND CONSTRUCTION MATERIALS

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which of the following is NOT an example of a metamorphic rock?

   (a) Gneiss (b) Schist (c) Marble (d) basalt

2. Which type of clay is used as a drilling mud

   (a) China clay (b) Fullers earth (c) Bentonite clay (d) Fire clay

3. The most abundant mineral in the Earth's crust is

   (a) quartz (b) K-feldspar (c) biotite (d) garnet

4. The type of wave that arrives first at the station from an earth's hypocenter

   (a) P-wave (b) S-wave (c) Rayleigh wave (d) None of these

5. A heavy stone is suitable for

   (a) arches (b) rubble masonry (c) retaining walls (d) roads

6. Excess of silica in bricks results in

   (a) cracking (b) loss of cohesion
   (c) enhance the impermeability (d) warping

7. A mortar joint in masonry which is normal to the face of wall is known is

   (a) bed joint (b) wall joint (c) cross joint (d) bonded joint

8. The proportion of lime and sand in mortar normally used in brick construction

(a) 1:2 (b) 1:4 (c) 1:6 (d) 1:8

9. The plywood

(a) has good strength along the panel only
(b) can be split in the plane of panel
(c) has greater impact resistance to blow the ordinary wood
(d) cannot be bend more easily than the ordinary brick of same thickness

10. Which of the following is the purest form of steel

(a) cast iron (b) wrought iron
(c) mild steel (d) high carbon steel

PART - B (5 x 2 = 10 Marks)

11. What are the effects of weathering on the engineering properties of rocks?

12. Name a few secondary tectonic plates.

13. Differentiate between Gneiss and Schist.

14. What are the test to be performed on bricks?

15. Define sand bulking.

PART - C (5 x 16 = 80 Marks)

16. (a) Describe in detail process of weathering of rocks. Add note on effect of weathering of strength of rocks. (16)

Or

(b) Give a detailed account of chemical composition, physical properties, origin, varieties and uses of minerals. (16)

17. (a) Describe in detail about plate tectonics and continental drift. (16)

Or

(b) What is a fault? Discuss various types of faults and add a note on its application in engineering projects. (16)

18. (a) Elaborate the classification and manufacturing of clay bricks. (16)

Or

(b) Illustrate the criteria for selection and tests to be conducted on stones. (16)

19. (a) Explain the types and manufacturing process of cement. (16)

Or

(b) Enumerate the tests performed on aggregates. (16)

20. (a) Describe the market forms of steel in detail. (16)

Or

(b) Give a detailed account of processing and seasoning of timber. Also explain its properties. (16)

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