

Reg. No.

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Question Paper Code

12102

28 JUL 2023

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2023

Third Semester

Civil Engineering

20CEPC305 - ENGINEERING GEOLOGY

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

- | | <i>Marks,
K-Level, CO</i> |
|--|-------------------------------|
| 1. Draw the internal structure of Earth. | 2,K2,CO1 |
| 2. Define the terms i) Focus ii) Epicenter. | 2,K1,CO1 |
| 3. Write the Mohs scale of hardness. | 2,K2,CO3 |
| 4. Why attrition test is carried out on rock samples? | 2,K2,CO3 |
| 5. Briefly describe Dip and Strike of rocks use a neat diagram. | 2,K2,CO4 |
| 6. What are the classifications of joints? | 2,K1,CO4 |
| 7. List a few applications of geophysical surveys. | 2,K1,CO5 |
| 8. Define the terms hanging wall and foot wall. | 2,K1,CO5 |
| 9. Give the applications of satellite imagery in Civil engineering projects. | 2,K1,CO6 |
| 10. Write few lines on application of remote sensing in civil engineering. | 2,K1,CO6 |

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

11. a) Make a brief note on the erosion features formed by the geological work of wind. 13,K2,CO1
- OR**
- b) Explain in detail on the geological actions of streams and rivers. Write a note on its significance in Civil Engineering. 13,K2,CO1
12. a) What are the engineering properties of rocks to be tested for constructions of buildings, dams and tunnels? Discuss how to determine the engineering properties of rocks at site. 13,K2,CO3
- OR**
- b) Discuss the classification, texture and structure of metamorphic rocks. 13,K2,CO3
13. a) Discuss in detail about folds, types and its role in the design of dams and tunnels. 13,K2,CO4

OR

b) Discuss on the faults, their causes and effects on the engineering quality of rocks. *13,K2,CO4*

14. a) Elaborate on the electrical resistivity methods of geophysical surveys used for sub-surface civil engineering investigations. *13,K2,CO5*

OR

b) Describe with neat diagram the various classifications of faults (Normal, Strike, Oblique & Reverse). *13,K2,CO5*

15. a) What are landslides? Describe the types of landslide and their causative factors with a sketch and enumerate the geological investigations required for identifying land slide prone areas and mitigation of landslides. *13,K2,CO6*

OR

b) Using case studies, give a detailed account of applications of remote sensing in civil engineering. *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Give a detailed account of the chemical composition, physical properties, origin, occurrence, structure, engineering behaviour and uses of the clay minerals. *15,K2,CO2*

OR

b) Explain the physical properties of *15,K2,CO2*
(i) Biotite and muscovite.
(ii) Hypersthene and augite.
(iii) Gypsum and Mica