

B.E. / B.Tech. - DEGREE EXAMINATIONS, APR / MAY 2025

Third Semester

Civil Engineering**20CEPC305 - ENGINEERING GEOLOGY**

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

	Marks	K-Level	CO
1. How many types of crust are there on earth? (a) 5 (b) 4 (c) 3 (d) 2	1	K1	CO1
2. Which of the following types of crust is thicker and less dense? (a) Continental crust (b) Oceanic crust (c) both A and B (d) none of the above	1	K1	CO1
3. What type of rock is granite? (a) Sedimentary (b) Metamorphic (c) Igneous (d) None of the above	1	K1	CO2
4. Which of the following is an example of a metamorphic rock? (a) Limestone (b) Shale (c) Quartzite (d) Basalt	1	K1	CO2
5. What type of forces categorize textures into porphyroclastic and mylonitic in metamorphic rocks? (a) Sedimentary forces (b) Dynamic forces (c) Crystallization forces (d) Pressure forces	1	K1	CO3
6. What do platy minerals and elongated minerals in metamorphic rocks exhibit? (a) Random orientation (b) Fracture patterns (c) Preferred orientation (d) Color variations	1	K1	CO3
7. What type of forces dominate at divergent plate margins? (a) Tensional forces (b) Shearing forces (c) Compressive forces (d) flexural forces	1	K1	CO4
8. The two sides of a fold are called its _____. (a) Anticline (b) Limbs (c) Syncline (d) Axial planes	1	K1	CO4
9. Most of the geophysical works are based on the measurement of (a) Magnetic susceptibility (b) Electrical conductivity (c) Radio activity (d) All of the mentioned	1	K1	CO5
10. A solid barrier constructed at a suitable location across a river valley to impound water is called _____. (a) Reservoir (b) Dam (c) Bridge (d) Retaining wall	1	K1	CO6

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

11. Recall the internal structure of Earth.	2	K1	CO1
12. Write short notes on landforms of sea.	2	K1	CO1
13. Summarize the physical properties, chemical composition, varieties and uses of mica.	2	K2	CO2
14. List the physical properties of clay minerals.	2	K1	CO2
15. Define Igneous rock.	2	K1	CO3
16. Show the examples of sedimentary rocks.	2	K1	CO3
17. Describe Dip and Strike of rock with neat diagram.	2	K2	CO4
18. Illustrate the Normal and Reverse fault structure.	2	K2	CO4
19. Write down the 6 parameters of Rock mass rating system (RMR).	2	K1	CO5
20. What is borehole core logging?	2	K1	CO5

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| 21. Name the different types of landslides. | 2 | K1 | CO6 |
| 22. Outline Tunneling. | 2 | K2 | CO6 |

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

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| 23. | a) | Explain brief note on the erosion features formed by the geological work of wind. | 11 | K2 | CO1 |
| OR | | | | | |
| | b) | Describe the internal structure and composition of the earth with neat sketches. | 11 | K2 | CO1 |
| 24. | a) | Explain a detailed account of the chemical composition, physical properties, origin, occurrence, structures, engineering behavior and uses of clay minerals. | 11 | K2 | CO2 |
| OR | | | | | |
| | b) | Summarize in detail about the varieties, composition, properties and uses of gypsum, quartz and feldspar. | 11 | K2 | CO2 |
| 25. | a) | Outline the composition, properties, occurrence and uses of
(i) Calcite and its varieties (ii) Quartz and Feldspar family | 11 | K2 | CO3 |
| OR | | | | | |
| | b) | Explain in detail about the classification, texture and structure of Igneous rocks. | 11 | K2 | CO3 |
| 26. | a) | Describe with neat diagram the various classifications of faults. | 11 | K2 | CO4 |
| OR | | | | | |
| | b) | Illustrate with neat sketches on folds, classification of folds, folding process and their Civil engineering significance. | 11 | K2 | CO4 |
| 27. | a) | Explain in detail about the application of geophysical methods with neat sketches. | 11 | K2 | CO5 |
| OR | | | | | |
| | b) | Explain in detail about ground penetrating radar with advantages and disadvantages. | 11 | K2 | CO5 |
| 28. | a) | What are seismic waves? Explain how earthquakes epicenter located with neat diagram is. | 11 | K2 | CO6 |
| OR | | | | | |
| | b) | Summarize the geological processes that result in coastal erosion. What are the effects of the action of sea waves on the coastal zones? | 11 | K2 | CO6 |