



CBCS SCHEME

17CV/CT35

Third Semester B.E. Degree Examination, Dec.2019/Jan.2020 Engineering Geology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Enumerate the importance of Geology in civil engineering practices. (10 Marks)
b. Describe the internal structure and composition of the earth. (10 Marks)

OR

- 2 a. Define Mineral. Explain the physical properties, chemical composition and uses of important Quartz group of minerals. (12 Marks)
b. Write physical properties, chemical composition and uses of any two of the ore minerals :
i) Magnesite ii) Chromite iii) Bauxite iv) Chalcopyrite. (08 Marks)

Module-2

- 3 a. What are Sedimentary rocks? How are they formed and give their classification. (10 Marks)
b. What is Metamorphism? Mention the types of metamorphism. (06 Marks)
c. Distinguish between any ONE of the following based on their composition and mode of formation : i) Basalt and Lime stone ii) Schist and Granite (04 Marks)

OR

- 4 a. Distinguish between a Joint and a fault in rocks. Explain their impact in the selection of sites for Dams. (10 Marks)
b. What is Soft rock tunneling? Describe the safety measures to be taken in soft rock tunneling. (06 Marks)
c. Define Rock Quality Determination. (04 Marks)

Module-3

- 5 a. Define Weathering and state its importance in civil engineering field. Describe the process involved in chemical weathering. (10 Marks)
b. Briefly explain any two of the following :
i) Watershed management ii) Floods and their control
iii) Drainage pattern – parameters and development
iv) Coastal lines and their engineering considerations. (10 Marks)

OR

- 6 a. What is an Earthquake? Briefly explain its causes and effects. (10 Marks)
b. Narrate critically the depth of bed rock that influence the design, stability and durability of a bridge. (10 Marks)

Module-4

- 7 a. With a neat sketch, explain Hydrological cycle. (06 Marks)
b. Define 'Aquifer'. With neat sketches, explain unconfined and confined aquifers. (08 Marks)
c. Describe vertical distribution of groundwater in Earth's crust with a neat sketch. (06 Marks)

OR

- 8 a. Explain groundwater exploration through Electrical Resistivity Method. (10 Marks)
b. Describe various methods involved in Artificial recharge of groundwater. (10 Marks)

Module-5

- 9 a. Enumerate Remote Sensing applications in Civil engineering projects. (10 Marks)
b. What is GIS? Explain its concept, applications and limitations. (10 Marks)

OR

- 10 a. What are LANDSAT imageries? Explain its uses. (06 Marks)
b. Discuss briefly the impact of mining and quarrying on environment. (07 Marks)
c. Give explanatory notes on Natural disasters and their mitigation. (07 Marks)
