2024/SEM/EVEN/14/36/ESC/ESCC-653/112

PG Even Semester Exam, 2024

Earth Science

4th Semester

COURSE NO. ESCC-653 (ii)

[Engineering Geology and Geo-hazards]

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer five questions, taking one from each Unit

UNIT-I

1. a. Discuss the role of engineering geologist in civil engineering projects . 8

   b. Write a note on physical and mechanical properties of rock mass. 6

2. a. Discuss he different stages of site investigation for any engineering project. 8

   b. Write note on the following: 2+4=6

      i. Slake durability test

      ii. Rock quality designation.

UNIT-II

3. Write a descriptive note on the geological considerations for evaluation of dam sites with proper diagrams. 14

Turn over

4. Discuss in detail the geotechnical investigations for bridge construction. 14

UNIT-III

5. Write a descriptive note on Environmental Impact Assessment methods for engineering construction. 14

6. Write notes on the following: 5+5+4=14

   a. Environmental Geologic mapping

   b. Environmental Impact Analysis of dam

   c. Natural and man-made environmental changes.

UNIT-IV

7. Write about the role of gravity and water on the landslide. Write note on creep and debris flow. 4+4+3+3=14

8. Enumerate and describe different causes of flood. Write a note on the flood management. 8+6=14

UNIT-V

9. Enumerate different types of seismic waves and describe the properties of S-wave. Write a descriptive note on the causes of earthquake. 2+5+7=14

10. Write descriptive note on the following: 7+7=14

    a. Seismic zonation of India

    b. Aseismic design of building

★★★

2024/SEM/EVEN/14/36/ESC/ESCC-653/112
2024/SEM/EVEN/14/36/ESC/ESCC-653/112

PG Even Semester Exam, 2024

Earth Science

4th Semester

COURSE NO. ESCC-653 (ii)

[Engineering Geology and Geo-hazards]

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer five questions, taking one from each Unit

UNIT-I

1. a. Discuss the role of engineering geologist in civil engineering projects . 8

   b. Write a note on physical and mechanical properties of rock mass. 6

2. a. Discuss he different stages of site investigation for any engineering project. 8

   b. Write note on the following: 2+4=6

      i. Slake durability test

      ii. Rock quality designation.

UNIT-II

3. Write a descriptive note on the geological considerations for evaluation of dam sites with proper diagrams. 14

Turn over

4. Discuss in detail the geotechnical investigations for bridge construction. 14

UNIT-III

5. Write a descriptive note on Environmental Impact Assessment methods for engineering construction. 14

6. Write notes on the following: 5+5+4=14

   a. Environmental Geologic mapping

   b. Environmental Impact Analysis of dam

   c. Natural and man-made environmental changes.

UNIT-IV

7. Write about the role of gravity and water on the landslide. Write note on creep and debris flow. 4+4+3+3=14

8. Enumerate and describe different causes of flood. Write a note on the flood management. 8+6=14

UNIT-V

9. Enumerate different types of seismic waves and describe the properties of S-wave. Write a descriptive note on the causes of earthquake. 2+5+7=14

10. Write descriptive note on the following: 7+7=14

    a. Seismic zonation of India

    b. Aseismic design of building

★★★