

Total No. of Printed Pages—3

**5 SEM TDC GEOH (CBCS) C 11**

**2021**

( Held in January/February, 2022 )

**GEOLOGY**

( Core )

Paper : C-11

( **Surveying and Engineering Geology** )

*Full Marks : 53*

*Pass Marks : 21*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

**UNIT—1**

( **Introduction to Surveying** )

( *Marks : 9* )

1. Define the following : 1×4=4
  - (a) Datum line
  - (b) Ellipsoidal surface
  - (c) Benchmark
  - (d) Level
  
2. What is geoid? What is the difference between geodetic survey and plane survey? 2+3=5

( 2 )

UNIT—2

( **Plane Surveying** )

( Marks : 17 )

3. Describe the following instruments and the method adopted in any *one* of the surveying techniques : 10
- (a) Chain traverse  
(b) Plane table survey
4. Write short notes on any *two* of the following :  $3\frac{1}{2} \times 2 = 7$
- (a) Electronic Distance Measurement  
(b) Great Trigonometric Survey of India  
(c) Transit Compass

UNIT—3

( **Levelling** )

( Marks : 10 )

5. Write short notes on any *two* of the following :  $2 \times 2 = 4$
- (a) Digital Elevation Model  
(b) Triangulation  
(c) Vertical Control
6. Write about the process of differential levelling. 6

Or

Write about the theodolitic survey.

( 3 )

UNIT—4

( Introduction to Engineering Geology )

( Marks : 10 )

7. Describe briefly about the role of the geologists in the construction of major engineering structures. 3
8. Write briefly about the site investigation for the construction of a Dam in folded and faulted areas. Describe the measures to be taken in such areas. 3+2=5
9. What are construction materials? Give examples. 2

UNIT—5

( Geotechnical Ideas about Engineering Structures )

( Marks : 7 )

10. Write short notes on any *two* of the following : 2×2=4
- (a) Grouting
  - (b) Rock Bolting
  - (c) Rock Quality Designation
11. Write briefly about intact rock properties. 3

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