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(6th Semester)

GEOLOGY

ELEVENTH PAPER

(Applied and Engineering Geology)

(PART : A—OBJECTIVE)

(Marks : 20)

The figures in the margin indicate full marks for the questions

SECTION—A

(Marks : 5)

1. Put a Tick (✓) mark against the correct answer in the brackets provided : 1×5=5

(a) The rock with maximum uniaxial compressive strength is

(i) sandstone ()

(ii) shale ()

(iii) marble ()

(iv) granite ()

(b) The length of Gunter's chain is

(i) 100 ft ()

(ii) 75 ft ()

(iii) 66 ft ()

(iv) 55 ft ()

(c) Which among these is not a building material?

(i) Sandstone ()

(ii) Chromite ()

(iii) Limestone ()

(iv) Granite ()

(d) Wavelength of visible light ranges between

(i) 0.3–0.5 micron ()

(ii) 0.3–0.6 micron ()

(iii) 0.4–0.6 micron ()

(iv) 0.4–0.7 micron ()

(e) In geometric representation of objects, points have

(i) no dimension ()

(ii) one-dimension ()

(iii) two-dimension ()

(iv) three-dimension ()

(4)

SECTION—B

(Marks : 15)

2. Write on/Answer the following :

3×5=15

(a) Shear strength

(5)

(b) Calculate the RF for 2 inches to 1 mile.

(c) Specification for construction

(d) Principal point

(e) Digital Elevation Model (DEM)

★ ★ ★

(4)

VI/GEOL (xi)

UNIT—V

9. Write notes on any *two* of the following :

$3\frac{1}{2} \times 2 = 7$

(a) Vector and Raster data models

(b) Topology models

(c) Map projections

10. Comment on application of GIS in geology with appropriate examples.

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2014

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(Applied and Engineering Geology)

Full Marks : 55

Time : 2 hours

(PART : B—DESCRIPTIVE)

(Marks : 35)

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. Write notes on the following : $2 + 1\frac{1}{2} + 1\frac{1}{2} + 2 = 7$

(a) Hardness

(b) Strain and Poisson's ratio

(c) Hook's law

(d) Porosity

(2)

2. Discuss the importance of geological consideration for construction of dam. Give suitable diagrams in support of your answer. 7

UNIT—II

3. Write notes on the following : $3\frac{1}{2} \times 2 = 7$
(a) Principle of chain and tape survey
(b) IAC system of topographic map
4. Write notes on the following : $3\frac{1}{2} \times 2 = 7$
(a) Plane table survey
(b) Representation of map scale

UNIT—III

5. Write notes on the following : $2+2+3=7$
(a) Refractory minerals
(b) Abrasive minerals
(c) Chemical grade

(3)

6. Describe the chemical composition and principal uses of either gypsum or graphite. 7

UNIT—IV

7. Define aerial photographs. Add notes on any two of the following : $1+3+3=7$
(a) Aerial photography according to the camera axis
(b) Pocket stereoscope and mirror stereoscope
(c) Types of aerial photograph according to lense system
8. Write notes on any two of the following : $3\frac{1}{2} \times 2 = 7$
(a) Photogeologic characteristics of sandstones in humid and subhumid area
(b) Photogeologic characteristics of intrusive igneous rocks
(c) Photogeologic characteristics of schists