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(6th Semester)

GEOLOGY

ELEVENTH PAPER

(**Applied and Engineering Geology**)

Full Marks : 55

Time : 2½ 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+2+3=7

- (a) Poisson's ratio
- (b) Strain
- (c) Porosity and permeability

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

UNIT—II

3. (a) How will you decide steep and gentle slopes in topographic map? 2

(b) Write the principle, advantages and disadvantages of chain and tape survey. 1+2+2=5

4. Write notes on the following : 2+2+3=7

- (a) Use of plane table survey
- (b) IAC system of toposheet numbering
- (c) Map scales

UNIT—III

5. Write notes on the following : 2+2+3=7

- (a) Barite
- (b) Abrasive minerals
- (c) Asbestos

6. Describe the chemical composition and principal uses of either dolomite or copper. 7

(3)

UNIT—IV

7. Define aerial photograph. Add notes on any *two* of the following : $1+3+3=7$
- (a) Types of aerial photograph according to lens system
 - (b) Pocket stereoscope and mirror stereoscope
 - (c) Drift and Crab
8. Write notes on any *two* of the following : $3\frac{1}{2}\times 2=7$
- (a) Photogeologic characteristics of shale in humid to subhumid area
 - (b) Photogeologic characteristics of extrusive igneous rocks
 - (c) Photogeologic characteristics of gneiss

UNIT—V

9. Write notes on any *two* of the following : $3\frac{1}{2}\times 2=7$
- (a) Map projections
 - (b) Vector and raster data models
 - (c) Topology models
10. Define GIS. Write a comment on application of GIS in geology. $1+6=7$

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Subject Code : GEOL/VI/11

Booklet No. A

Date Stamp

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To be filled in by the Candidate

DEGREE 6th Semester
(Arts / Science / Commerce /
.....) Exam., **2016**

Subject

Paper

INSTRUCTIONS TO CANDIDATES

- 1. The Booklet No. of this script should be quoted in the answer script meant for descriptive type questions and vice versa.**
- 2. This paper should be ANSWERED FIRST and submitted within 45 minutes of the commencement of the Examination.**
- 3. While answering the questions of this booklet, any cutting, erasing, over-writing or furnishing more than one answer is prohibited. Any rough work, if required, should be done only on the main Answer Book. Instructions given in each question should be followed for answering that question only.**

To be filled in by the Candidate

DEGREE 6th Semester
(Arts / Science / Commerce /
.....) Exam., **2016**

Roll No.

Regn. No.

Subject

Paper

Descriptive Type

Booklet No. B

*Signature of
Scrutiniser(s)*

*Signature of
Examiner(s)*

*Signature of
Invigilator(s)*

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2 0 1 6

(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) Which layer is most suitable for the plinth of a bridge?

(i) Gravel ()

(ii) Limestone ()

(iii) Sandstone ()

(iv) Shale ()

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(2)

(b) Toposheet number that covers Lunglei town is

(i) 84 A/08 and 84 A/12 ()

(ii) 84 A/09 and 84 A/13 ()

(iii) 84 B/08 and 84 B/12 ()

(iv) 84 B/09 and 84 B/13 ()

(c) Which of the following minerals is not used in cement industry?

(i) Aragonite ()

(ii) Calcite ()

(iii) Clay ()

(iv) Nickel ()

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(3)

(d) The bands of wavelength ranging from approximately 0.4 to 0.5 micron appears _____ to the human eyes.

(i) blue ()

(ii) green ()

(iii) red ()

(iv) yellow ()

(e) In geometric representation of object, areas have

(i) no dimension ()

(ii) one dimension ()

(iii) two dimensions ()

(iv) three dimensions ()

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(4)

SECTION—B

(Marks : 15)

2. Write notes on/Answer the following : 3×5=15

(a) Hardness

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(5)

(b) Find the RF for 3 inches to 1 mile.

(6)

(c) Uniaxial compressive strength

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(7)

(d) Nadir point

(8)

(e) DEM

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