2 0 1 7

(6th Semester)

GEOLOGY

TENTH PAPER

(Geochemistry and Exploration 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 brief notes on the following :   3½+3½=7

   (a)   Hypothesis of Kuhn and Rittman

   (b)   Hypothesis of Arthur Holmes

2. Write a note on Goldschmidt geochemical
   classification of elements.   7

UNIT—II

3. Differentiate between primary and secondary
   dispersion patterns. Write a note on
   secondary dispersion pattern.   2+5=7

4. Write short notes on the following :   3½+3½=7

   (a)   Geochemical anomaly

   (b)   Trace and pathfinder elements

UNIT—III

5. What do you understand by the term
   'geological prospecting'? Discuss different
   stages involved in geological prospecting.
                                             1+6=7

6. Write brief notes on the following :   3½+3½=7

   (a)   Orientation of map

   (b)   Representation of map scale

UNIT—IV

7. Write a note on the applications of
   geobotanical indicators in geochemical
   prospecting.   7

(3)

8. Write notes on the following :　　　3½+3½=7

   (a)　Precautions in geochemical sampling

   (b)　Geozoological indicators

UNIT—V

9. Define the theory of radioactivity. Discuss various methods of geophysical exploration.

   2+5=7

10. Describe in detail about the seismic reflection method of geophysical exploration. Add a note on its application in the field of Geology.　　　5+2=7

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Subject Code : GEOL/VI/10

Booklet No. A

To be filled in by the Candidate

DEGREE 6th Semester

(Arts / Science / Commerce /

........................) Exam., **2017**

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.**

Date Stamp ....

....

To be filled in by the Candidate

DEGREE 6th Semester

(Arts / Science / Commerce /

........................) Exam., **2017**

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 7

(6th Semester)

GEOLOGY

TENTH PAPER

(Geochemistry and Exploration Geology)

(PART : A—OBJECTIVE)

(*Marks* : 20)

The figures in the margin indicate full marks for the questions

SECTION—I

(*Marks* : 5)

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

   (a) In the Sun's core, helium is converted into

       (i) carbon and nitrogen ( )

       (ii) carbon and oxygen ( )

       (iii) neon and nitrogen ( )

       (iv) sulphur and nitrogen ( )

(b) The pathfinder element for sulphide deposit is

    (i) Sc   ( )

    (ii) Hg   ( )

    (iii) SO_4 ( )

    (iv) As   ( )

(c) A Survey of India Toposheet Scale is

    (i) 1 cm to 1 km   ( )

    (ii) 2 cm to 1 km   ( )

    (iii) 1 inch to 1 mile   ( )

    (iv) 2 inch to 1 mile   ( )

(d) The departure from geochemical patterns that are normal for the given area is called

   (i) threshold value   (   )

   (ii) anomaly   (   )

   (iii) background value   (   )

   (iv) None of the above   (   )

(e) The difference between polar and equatorial radius of earth is

   (i) 12 km   (   )

   (ii) 35 km   (   )

   (iii) 43 km   (   )

   (iv) 21 km   (   )

(**4**)

SECTION—II

(*Marks* : 15)

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

   (a)   Oddo-Harkins rule

(b) Partition Coefficient

(c) CIM System of Toposheet Numbering

(d) Anomaly Map

(e) Theory of Gravity

★★★