

2016

( 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 an account of geochemical evolution of the earth. 7
2. Write notes on cosmic abundance of elements. 7

UNIT—II

3. Write notes on the following :  $3\frac{1}{2}+3\frac{1}{2}=7$ 
  - (a) Secondary dispersion
  - (b) Pathfinder elements
4. Write notes on the following :  $3\frac{1}{2}+3\frac{1}{2}=7$ 
  - (a) Role of environment in elemental mobility
  - (b) Diadocic replacement

UNIT—III

5. Write in detail about the geological field mapping. 7
6. Write short notes on the following :  $3\frac{1}{2}+3\frac{1}{2}=7$ 
  - (a) Survey of India Toposheet
  - (b) Map scale

UNIT—IV

7. Discuss the precaution in geochemical prospecting. 7
8. Write notes on any *two* of the following :  $3\frac{1}{2}\times 2=7$ 
  - (a) Assay value
  - (b) Clarke value
  - (c) Background value

( 3 )

UNIT—V

9. Write the 'theory of gravity'. Describe in detail about the various techniques used in gravity method of geophysical exploration. 2+5=7
10. Describe in detail about the magnetic method of geophysical exploration. 7

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Subject Code : GEOL/VI/10

Booklet No. **A**

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Date Stamp .....

**To be filled in by the Candidate**

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

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**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 .....

**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 45 minutes of the commencement of the Examination.
- 3. While answering the questions of this booklet, any cutting, erasing, overwriting 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.

Signature of  
Scrutiniser(s)

Signature of  
Examiner(s)

Signature of  
Invigilator(s)

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( 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) Elements that fit easily into rock-forming minerals are called

(i) compatible elements ( )

(ii) incompatible elements ( )

(iii) high field strength elements ( )

(iv) large ion lithophile elements ( )

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( 2 )

(b) The minimum concentration of a trace element in the ore body is called

(i) background value ( )

(ii) threshold value ( )

(iii) standard value ( )

(iv) None of the above ( )

(c) 1° of latitude is approximately equals to

(i) 100 km ( )

(ii) 111 km ( )

(iii) 120 km ( )

(iv) 121 km ( )

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( 3 )

(d) 'Hg' is a pathfinder element for

(i) Ag ( )

(ii) Pb ( )

(iii) Zn ( )

(iv) Cu ( )

(e) A positive gravity anomaly indicates

(i) a deficiency of mass ( )

(ii) an excess of mass ( )

(iii) a reversal of gravitational field ( )

(iv) None of the above ( )

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SECTION—II

( Marks : 15 )

2. Write notes on the following :

3×5=15

(a) Siderophiles

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( 5 )

*(b)* Anomaly

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( 6 )

(c) Orientation of map

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( 7 )

(d) Primary dispersion

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( 8 )

(e) Various parameters used in geophysical exploration

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