

Total No. of Printed Pages—4

6 SEM TDC GEO M 3

2 0 1 8

(May)

GEOLOGY

(Major)

Course : 603

**(Geological, Geochemical and
Geophysical Exploration)**

Full Marks : 48

Pass Marks : 19/14

Time : 2 hours

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

UNIT—21.1

(Geological Exploration)

(Marks : 16)

1. Write notes on any *two* of the following : $4 \times 2 = 8$
 - (a) Coring and borehole logging
 - (b) Classification of ore reserve
 - (c) Determination of average grade

(2)

2. What do you mean by geological exploration?
Explain about the role of geological criteria
and guide in exploration. 1+5=6

Or

Describe the different stages of geological
exploration. 6

3. Choose the correct answer of the following : 1×2=2

(a) Which scale is more likely during detail
geological mapping?

(i) 1 : 250000

(ii) 1 : 50000

(iii) 1 : 5000

(b) Which of the following is an indicator of
petroleum?

(i) Anticline

(ii) Sandstone

(iii) Seepage

UNIT—21.2

(**Geochemical Exploration**)

(Marks : 16)

4. Write notes on any *two* of the following : 4×2=8

(a) Geochemical cycle

(b) Geochemical mobility

(c) Geochemical association of elements

(3)

5. What is geochemical dispersion? Describe about the primary and secondary dispersion pattern. 1+5=6

Or

Describe the methods of geochemical exploration. 6

6. Answer the following as directed : 1×2=2

(a) As per the Goldschmidt classification, atmophile elements include

(i) O, N, H

(ii) Na, K, Si

(iii) Fe, Co, Ni

(Choose the correct answer)

(b) Name the exploration process where plants are taken as indicator of geochemical elements.

UNIT—21.3

(Geophysical Exploration)

(Marks : 16)

7. Write notes on any *two* of the following : 4×2=8

(a) Resistivity methods

(b) Correction of data in gravity method of exploration

(c) Principles of radioactive method of exploration

8. Describe the principles, instrument used and field method of either seismic or magnetic method of geophysical exploration. 6

9. Answer the following : 1×2=2

(a) In which geophysical exploration method GM counter is used?

(b) Which physical property of rock is used in seismic method of exploration?
