



2022/TDC/ODD/SEM/GELDSE-501T/132

TDC (CBCS) Odd Semester Exam., 2022

GEOLOGY

(5th Semester)

Course No. : GELDSE-501T

(Exploration Geology)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

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

UNIT—I

1. Write brief notes on any *three* of the following : 1×3=3

(a) Mineral resource

(b) Skarn

(c) Placer deposits

(d) Industrial mineral



(2)

2. Write a short note on any one of the following : 2

- (a) Distribution of metallic minerals in India
- (b) Proved and Probable mineral reserve

3. (a) Describe in detail the VMS ore deposits with suitable diagram. 5

Or

- (b) Write a descriptive note on hydrothermal ore deposit with neat sketch.

UNIT—II

4. Write brief notes on any three of the following : 1×3=3

- (a) Trenching
- (b) Chip sampling
- (c) Geochemical anomaly
- (d) Channel sampling

5. Write a short note on any one of the following : 2

- (a) Pathfinder elements
- (b) Background and threshold value

(3)

6. (a) Write a descriptive note on the different stages of mineral exploration. 5

Or

- (b) Describe in detail the surface guides for geological exploration.

UNIT—III

7. Write brief notes on any three of the following : 1×3=3

- (a) Standard deviation
- (b) Arithmetic mean
- (c) Histogram
- (d) Mode

8. Write a short note on any one of the following : 2

- (a) Coefficient of variability
- (b) Variance

9. (a) Show how standard deviation can be calculated for evaluation of sampling data. 5

Or

- (b) Define mean, mode and median using a histogram.



(4)

UNIT—IV

10. Write brief notes on any *three* of the following : 1×3=3
- (a) Core logging
 - (b) Drill core
 - (c) Dry drilling
 - (d) Non-core drilling
11. Write a short note on any *one* of the following : 2
- (a) Core storage
 - (b) Types of percussion drilling
12. (a) Write a descriptive note on rock quality designation of rock core. 5
- Or
- (b) Illustrate in detail the types of rotary drilling.

UNIT—V

13. Write brief notes on any *three* of the following : 1×3=3
- (a) Bulk density
 - (b) Isolines
 - (c) Ore tonnage
 - (d) Cut-off grade

J23/308

(Continued)

(5)

14. Write a short note on any *one* of the following : 2
- (a) Factors affecting reliability of reserve estimation
 - (b) Importance of geostatistics
15. (a) Describe the polygonal method of reserve estimation. 5
- Or
- (b) Describe the triangular method of ore reserve estimation.

J23—150/308

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