

**2023/TDC(CBCS)/ODD/SEM/
GELSEC-501T/134**

TDC (CBCS) Odd Semester Exam., 2023

GEOLOGY

(5th Semester)

Course No. : GELSEC-501T

(Geochemistry)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

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

SECTION—A

Answer *fifteen* questions, selecting any *three* from
each Unit : 1×15=15

UNIT—I

1. Define cosmochemistry.
2. Define octet rule.
3. What are colloids?
4. Define covalent bond.

(2)

UNIT—II

5. Write a short note on physical and chemical characters of crust.
6. Write a short note on Dwarf Planet.
7. Write a short note on Terrestrial Planets.
8. Write a short note on Cosmic Elements.

UNIT—III

9. Write the three factors that are impelling forces in metamorphism.
10. Name two clay minerals that are commonly found in sediments and sedimentary rocks.
11. Name two major elements of igneous rock.
12. Name two detrital minerals that are abundantly found in sedimentary rocks.

UNIT—IV

13. Write a short note on entropy.
14. Write a short note on solid solution.

24J/150

(Continued)

(3)

15. Write the relationship between quartz and tridymite.
16. Write a short note on important factors in isomorphism.

UNIT—V

17. Name two distinct groups of siderolites.
18. Name two groups of aerolites on the basis of texture.
19. Define finds- and falls-meteorites.
20. What is the basis of classifying meteorites?

SECTION—B

Answer *five* questions, selecting *one* from each
Unit : 2×5=10

UNIT—I

21. What are the basic differences in approach between Mendeleev's Periodic Law and the Modern Periodic Law?
22. Why do elements in the same group have similar physical and chemical properties?

24J/150

(Turn Over)

(4)

UNIT—II

23. Write a short note on geochemical cycle.
24. Write a short note on asteroids and meteoroids.

UNIT—III

25. Write dehydration reaction.
26. Write major elements.

UNIT—IV

27. Write the laws of thermodynamics.
28. Write on elements of geochemical thermodynamics.

UNIT—V

29. Write a short note on siderites.
30. Write a short note on geochemical cycle.

(5)

SECTION—C

Answer five questions, selecting one from each
Unit : $5 \times 5 = 25$

UNIT—I

31. Write the significance and limitations of octet rule. Add a note on the favourable factors for the formation of ionic bond. $2+3=5$
32. Discuss briefly the elementary idea of periodic table. 5

UNIT—II

33. Write explanatory note on the cosmic abundance of elements.
34. Discuss briefly the composition of the planets.

UNIT—III

35. Write briefly on Goldschmidt's geochemical classification of elements.
36. Give an account on the distribution of major elements in sedimentary rocks.

UNIT—IV

37. Write an explanatory note on isomorphism.
38. Write briefly on isotope geochemistry.

UNIT—V

39. Write a detailed note on the geochemical structure of the earth.
40. Discuss briefly the biochemical classification of element.
