

## M.Sc. Sem.-4 Examination

510

Geology

April-2025

Time : 2-30 Hours]

[Max. Marks : 70

- Instructions:** (i) Draw neat diagrams whenever necessary.  
(ii) Write proper answer number.

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Q-1 Write a critical note on ocean bottom mining. (14)

OR

Q-1 (a) Exploration and exploitation phases of mining. (07)

(b) General stope operations and cut & fill stoping. (07)

Q-2 Explain environmental implications of volcanism and landslides. (14)

OR

Q-2 (a) Environmental planning and management. (07)

(b) Nature and scope of environmental geology. (07)

Q-3 Discuss the applications of logs in petrophysical and facies analysis. (14)

OR

Q-3 (a) Kerogen and its types. (07)

(b) Oil fields of Gujarat. (07)

Q-4 Describe the processes of coal carbonization and coal hydrogenation. (14)

OR

Q-4 (a) Chemical characterization of coal. (07)

(b) Mode of occurrence and association of atomic minerals. (07)

Q-5 **Attempt any seven questions out of twelve.** (14)

(i) Define tunnel and face.

(ii) Define stripping ratio and subgrade.

(iii) Write about one computer solution used in mining.

(iv) State non-renewable earth resources.

(v) Mention two effects of avalanche on environment.

(vi) Point out the nuclear waste disposal solution.

(vii) What is primary migration of oil?

(viii) Name the sub-basins of Rajasthan.

(ix) What is oilfield fluid?

(x) Name the lignite fields of Gujarat.

(xi) What is CBM? Where it is required?

(xii) How coal petrology is used in hydrocarbon exploration?