

## Integ. M.Sc in App Geo Sem.-5 Examination

AGL 303

Exploration Geology

Time : 2-30 Hours]

November-2024

[Max. Marks : 70

Q-I	<b>A</b> define a mineral and a rock. Write in detail all the physical properties of a mineral/rock and its significance in mineral/rock identification (with examples)	7
	<b>B</b> explain in detail - How are mineral resources found and exploited and What are the adverse effects of exploiting mineral resource	7

or

Q-I	<b>A</b> name (only) the ore forming processes and explain in detail what determines whether or not a mineral source is economical to exploit?	7
	<b>B</b> write a note on the properties that make metals economically and industrially important	7

Q-II	<b>A</b> write a note on 1) importance of geological mapping in exploration 2) challenges in exploration	7
	<b>B</b> write a note on pitting and trenching in exploration (fig must)	7

or

Q-II	<b>A</b> define soil, subsoil, types of soil with horizons, and explain in detail the importance of subsoil investigation in exploration (fig must wherever needed)	7
	<b>B</b> what is significant depth and what are the factors attesting the significant depth- explain in detail	7

Q-III	<b>A</b> define core, gossan, gamma ray spectrometry, mine cut-off grade, pit geometry, reclamation, GPS, gravity anomaly, rotary drilling	7
	<b>B</b> write a note on the significance of radiometric surveys in exploration	7

or

Q-III	<b>A</b> write a note on the importance of site selection, number of boreholes, and depth in any exploration studies	7
	<b>B</b> write a note on the importance of mineral resources and its types	7

Q IV	<b>A</b> define geophysical exploration, reserve, resource, gangue, ore, metasomatism, hydrothermal solution, strata bound ore deposits, geological mapping, altimeter	7
	<b>B</b> write a note on 1) auger drilling and 2) core logging (fig must)	7

or

(P.T.O.)

N/846-2

Q-IV	Awrite a note on the importance of minerals in industries	7
	Bwrite a note on types of soil samples	7

QV	Attempt any seven out of twelve	14
----	---------------------------------	----

- 1) Define carbon capture
  - 2) When are vertical pits used?
  - 3) State the full form of "MeV"(unit)
  - 4) state the full form of LBS in terms of weight
  - 5) define prospecting
  - 6) State the full form of unit "nT"
  - 7) Define break-even grade
  - 8) Define mill cut-off grade
  - 9) Define lode rock
  - 10) Which are the two main types of percussion drill
  - 11) Write any 3 examples of metallic minerals
  - 12) Write any 3 examples of non- metallic minerals
-