

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

AGL 303

Exploration Geology

Time : 2-30 Hours]

November-2024

[Max. Marks : 70]

Q-I	A 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 explain in detail - How are mineral resources found and exploited and What are the adverse effects of exploiting mineral resource	7

or

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

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

or

Q-II	A 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 what is significant depth and what are the factors attesting the significant depth- explain in detail	7

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

or

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

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

or

(P.T.O)

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

QV	Attempt any seven out of twelve	14
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- 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