AU CHENNAI 600 025

ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, MAY/JUNE 2024

MINING ENGINEERING
Semester - IV
AG5401 Geology for Mining - II

(Regulation 2019)

Time:3 hrs   Max.Marks: 100

CO1	Formation of Ore Deposits
CO2	Ore Geology
CO3	Fuel Geology
CO4	Geoprospecting
CO5	Remote Sensing and GIS

BL – Bloom's Taxonomy Levels
(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A (10x2 = 20 Marks)
(Answer all Questions)

Q.No	Questions	Marks	CO	BL
1	What are hypothermal deposits?	2	1	1
2	Write a short note on formation of beach placer deposits	2	1	1
3	Write a short note on occurrence of molybdenum in Tamil Nadu and its industrial uses.	2	2	1
4	List out the gemstones used for jewel making	2	2	1
5	Write a short note on nuclear mineral mining in Cuddapah formation	2	3	2
6	Brief about occurrence of hydrocarbon in Tamil Nadu	2	3	1
7	Name any four subsurface logging and their applications	2	4	2
8	Mention the applications of GPR survey in mining	2	4	2
9	What is TIN model? Mention any two applications of TIN models in Mining	2	5	2
10	What is IRNSS? Write any two purposes of IRNSS	2	5	2

PART- B (5x 13 = 65 Marks)
(Restrict to a maximum of 2 subdivisions)

Q.No	Questions	Marks	CO	BL
11 (a)	List out the major processes of formation of ore deposits and brief about them	13	1	3
	OR			
11 (b)	Explain in detail about ore-suits and their types with neat sketches	13	1	3
12 (a)	Write the properties and varieties of Aluminum and Manganese ores. Mention their occurrence in India	13	2	3

	OR			
12 (b)	Write the properties of minerals used in glass and paint industries.	13	2	3
13 (a)	Elaborate on properties and distribution of Gondwana coal deposits in India	13	3	4
	OR			
13 (b)	Elaborate on primary migration, secondary migration, and accumulation of oil and gas	13	3	4
14 (a)	Give a detailed account on gravity method of mineral exploration	13	4	4
	OR			
14 (b)	Discuss in detail about seismic refraction method and its applications in mining industry	13	4	4
15 (a)	Discuss in detail about the advantages and disadvantages of aerial and satellite remote sensing	13	5	3
	OR			
15 (b)	Give a detailed account on visual and digital interpretation of satellite data	13	5	3

PART- C (1x 15 = 15 Marks)
(Q.No.16 is compulsory)

Q.No	Questions	Marks	CO	BL
16. (i)	How will you prepare 3-D model of an underground ore deposit by conducting various direct methods of exploration?	7	4	5
(ii)	How will you utilize Geospatial Technology for mining activities?	8	5	6