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ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. (Full Time) - END SEMESTER EXAMINATIONS, NOV / DEC 2024

MINING ENGINEERING

Semester I

GY23C03 & Geology for Mining Engineering- I

(Regulation 2023)

Time: 3hrs

Max. Marks: 100

CO1	Understand plate tectonics and weathering of rocks
CO2	Know the formation of various landforms
CO3	State the properties of important minerals
CO4	Distinguish the rocks and their engineering properties
CO5	Recognize the structural features and their significance in mining

BL – Bloom's Taxonomy Levels

(L1-Remembering, L2-Understanding, L3-Applying, L4-Analysing, L5-Evaluating, L6-Creating)

PART- A(10x2=20Marks)

(Answer all Questions)

Q.No.	Questions	Marks	CO	BL
1	Write a short note on Gutenberg discontinuity	2	1	L1
2	Define the zone of aeration	2	1	L1
3	List four fluvial depositional landforms	2	2	L1
4	How do U-shaped valleys differ from V-shaped valleys?	2	2	L2
5	What is a mineral's cleavage?	2	3	L1
6	Name any four clay minerals	2	3	L1
7	Define textures in sedimentary rock	2	4	L1
8	Write short notes on granite	2	4	L1
9	Define unconformity	2	5	L1
10	Distinguish between faults and joints	2	5	L2

PART- B(5x 13=65Marks)

(Restrict to a maximum of 2 subdivisions)

Q.No.	Questions	Marks	CO	BL
11 (a)	What is weathering? Explain the processes of physical and chemical weathering.	13	1	L2
OR				
11 (b)	With a suitable sketch, explain the seismic discontinuities and corresponding compositional changes in the Earth.	13	1	L2
12 (a)	Explain the geomorphic landforms formed by the action of wind with suitable illustrations.	13	2	L3
OR				
12 (b)	Describe the chronostratigraphic classification of geological time scale.	13	2	L3
13 (a)	Describe the crystal structure, types, mineralogy, composition and physical properties of feldspar group minerals. Add a note on the uses of feldspar minerals	13	3	L4

OR				
13 (b)	Discuss in detail the physical properties of minerals, providing examples where applicable.	13	3	L4
14 (a)	What are the petrographic characteristics of (a) Dolerite (b) Basalt (c) Sandstone (d) Marble	13	4	L3
OR				
14 (b)	How are sedimentary rocks classified on their process of formation?	13	4	L3
15 (a)	List the types of fold and explain their classification based on fold attitude (dip and plunge)	13	5	L4
OR				
15 (b)	What are joints? Describe the Geometric classification of joints with neat diagrams	13	5	L4

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

Q.No.	Questions	Marks	CO	BL
16.	How the genesis of igneous rock can be understood by its textures. Explain with examples.	15	4	L5

