No. of Printed Pages : **2**

Sl. No.

21MNP3C9L

M.Tech. III Semester Degree Examination, April/May - 2023

MINERAL PROCESSING

Magnetic and Electrostatic Separation Technology

Time : 3 Hours Maximum Marks : 70

Note : *Answer **any five** of the following with Question **No.1 (Q1) Compulsory**. Each question carries **equal** marks.*

1.	(a)	Explain briefly what are the factors affecting the magnetic separation ?	**6**
	(b)	Describe the high intensity magnetic separation by induced roll separator with neat diagram.	**8**
2.	(a)	What is Di-electric separation and how does it work ?	**5**
	(b)	What are the different types of magnetic materials and their characteristics ? Provide examples of each type.	**5**
	(c)	With neat sketch explain free fall separator.	**4**
3.	(a)	Define Flocculation and Coagulation. Explain different types of Flocculants.	**8**
	(b)	Describe the process of selective flocculation and its applications.	**6**
4.	(a)	Derive the Kynah's equation from Coe Clevenger equation of determining the unit thickener area.	**8**
	(b)	Write note on Lamella thickener.	**6**
5.	(a)	What is the criterion for selection of a filter ? What are characteristics a filter cloth must possess ?	**8**
	(b)	Explain the down Stream method of tailing disposal.	**6**
6.	(a)	What is Canister ? What are the different types of matrix used in Magnetic separators ?	**5**
	(b)	Describe briefly the difference between Flocculation and Coagulation.	**5**
	(c)	With neat sketch explain Multi roll separator.	**4**
7.	(a)	What is High rate thickener and what are its advantages ?	**6**
	(b)	Describe the theory of filtration and factors affecting the filtration rate.	**8**

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8.	(a)	With neat sketch explain Screen type separator.	**5**
	(b)	How does a Disc Filter work ?	**5**
	(c)	Explain the applications of magnetic separators.	**4**

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