



## M.Tech. IV Semester Degree Examination, Sept./Oct. - 2024

### MINERAL PROCESSING

#### Dewatering and Tailing Management

#### (NEP)

Time : 3 Hours

Maximum Marks : 70

- Note :** (i) Question number **1** is **compulsory**.  
(ii) Answers **any five** of the following.

- |    |     |  |   |
|----|-----|--|---|
| 1. | (a) | With a neat sketch explain the concept of designing the thickeners.                        | 7 |
|    | (b) | Derive a Coe and Clevenger equation to find the thickener Area.                            | 7 |
| 2. | (a) | Describe Hi-rate and lamella thickener.  | 6 |
|    | (b) | Explain the factors affecting thickeners performance.                                      | 8 |
| 3. | (a) | With necessary diagram illustrate the mechanism of filtration.                             | 8 |
|    | (b) | With a neat sketch explain the pressure filtration.  | 6 |
| 4. | (a) | List the advantages and disadvantages of thermal drying in mineral processing.             | 7 |
|    | (b) | With a neat sketch explain Rotary drum dryer.  | 7 |
| 5. | (a) | Write a note on tailing disposal method.   | 7 |
|    | (b) | Explain briefly about back filling in tailing disposal.                                    | 7 |
| 6. |     | Write a note on the following.   |   |
|    | (a) | Horizontal belt filter.  | 7 |
|    | (b) | Laboratory thickening test.  | 7 |
| 7. | (a) | What do you mean by electrostatic coagulation ? Explain in detail.                         | 7 |
|    | (b) | With neat diagram explain the fluidized bed dryer.   | 7 |
| 8. | (a) | With a neat sketch explain the rotary drum filter.   | 7 |
|    | (b) | Write the advantages and disadvantages of upstream and downstream tailing disposal method. | 7 |

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