



M.Tech. III Semester Degree Examination, April/May - 2024

MINERAL PROCESSING

Froth Flotation

(NEP)

Time : 3 Hours

Maximum Marks : 70

Instructions : (1) Answer **any five** of the following questions.

(2) Each question carries **equal** marks.

(3) Question number **1 is compulsory**.

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| 1. | (a) | Explain the importance of surface alteration in froth flotation. | 7 |
| | (b) | Write a note on Bubble Generation and its role. | 7 |
| 2. | (a) | Give an account of different theories of adsorption process. | 7 |
| | (b) | Explain EDL theory. | 7 |
| 3. | (a) | With a neat sketch explain, contact angle measurement. | 7 |
| | (b) | List the selection criteria to select frother. | 7 |
| 4. | (a) | Define activators and explain the role of activator in froth flotation with relevant example. | 7 |
| | (b) | With necessary equations, explain the role of NaCN in froth flotation. | 7 |
| 5. | | Give a brief account of : | |
| | (i) | Role of particle size in flotation | 7 |
| | (ii) | Importance of liberation in Flotation process. | 7 |
| 6. | (a) | What is the role of Rougher-Cleaner-Re cleaning in froth flotation ? | 7 |
| | (b) | Explain flotation of Cu ores and compare case studies. | 7 |
| 7. | (a) | Explain RFC flotation cell with a neat sketch. | 7 |
| | (b) | Write the working principle of Hydro float. | 7 |
| 8. | (a) | Write a note on classification of flotation surfactants. | 7 |
| | (b) | Explain coal flotation. | 7 |

