USN | | | | | | | | | | **18MN63**

Sixth Semester B.E. Degree Examination, Jan./Feb. 2023
Mineral Processing and Fuel Technology

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-1

1 a. Discuss the various sequence of operation in mineral processing. **(10 Marks)**
b. With neat sketch, explain the principles of Comminution. **(10 Marks)**

OR

2 a. Discuss the various theories of Comminution. **(10 Marks)**
b. With neat sketch, explain the working principle of gyratory crusher. **(10 Marks)**

Module-2

3 a. With neat sketch, explain the sieving procedure and data analysis in the lab. **(10 Marks)**
b. With neat sketch, explain the working principle of trammels screen. **(10 Marks)**

OR

4 a. Distinguish between Free settling and Hindered settling with neat sketches. **(10 Marks)**
b. With neat sketch, explain the working principle of spiral classifier. **(10 Marks)**

Module-3

5 a. With neat sketch, explain the working principle of Jigging. **(10 Marks)**
b. With neat sketch, explain the working principle of flowing film concentration. **(10 Marks)**

OR

6 a. Explain the physio – chemical properties of flotation. **(10 Marks)**
b. Explain in detail the working principle of dry magnetic separator. **(10 Marks)**

Module-4

7 a. Discuss in detail the purpose and procedure for washing of coal. **(10 Marks)**
b. With neat graph, explain the washability curve. **(10 Marks)**

OR

8 a. With neat sketch, explain the working principle of thickening. **(10 Marks)**
b. Explain the process of extraction of copper ore in processing plant with neat flow sheet.
(10 Marks)

Module-5

9 a. Explain in detail about Anthracite. **(10 Marks)**
b. Explain in detail about the proximate analysis. **(10 Marks)**

OR

10 a. Explain in detail about the natural gas. **(10 Marks)**
b. Explain in detail about the high temperature carbonization along with neat sketch. **(10 Marks)**

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