

Total No. of Questions :5]

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Roll No

MI - 504**B.E. V Semester**

Examination, June 2015

Mineral Processing**Time : Three Hours****Maximum Marks : 70**

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each questions are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

1. a) Describe the main steps in ore dressing.
- b) Describe the principles of crushing.
- c) Draw well labeled diagrams of jaw and gyratory crushers.
- d) Describe in detail ball mills, rod mills and tube mills.

Or

Differentiate between jaw and gyratory crusher.

2. a) Derive the expression of screen efficiency.
- b) What are the major modes of operations of a vibrating screen?
- c) Discuss the factors affecting screen efficiency.

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- d) Describe the construction and operation of hydrocyclone.

Or

Discuss the different types of screens.

3. a) Discuss the principles of gravity concentrators.
- b) What is meant by dense media separation?
- c) Explain why a short jigging cycle is necessary for separating light coarse and heavy fine particles?
- d) Describe the operation of shaking tables.

Or

Describe the working of jigging cycle.

4. a) Discuss the principles of froth floatation.
- b) Discuss the types of collectors with the help of a flow chart.
- c) How do collectors and frothers work?
- d) Discuss the operation of Dwcra cell.

Or

Discuss the floatation of copper ores.

5. a) What are the design principles of magnetic separators?
- b) Draw a well labeled diagram of drum-separator.
- c) How are electrical separators arranged in practice?
- d) Discuss the typical beach-sand treatment using a flowsheet.

Or

Explain the working and construction of thickeners.

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