

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- VII • EXAMINATION-SUMMER 2015****Subject Code: 172204****Date: 04/05/2015****Subject Name: Mineral Processing****Time: 2.30pm-5.00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain the mineral processing by flow sheet. Define terminology like ore, mineral and middling **07**
- (b) Explain ball mill? Classify the various zones created in ball mill during grinding. **07**
- Q.2** (a) Give classification of crusher. Briefly discuss characteristics of Jaw crusher . **07**
- (b) Draw flow sheet of beneficiation for bituminous coal. **07**
- OR**
- (b) Draw a simplified flow sheet of beneficiation of lead-zinc ore. **07**
- Q.3** (a) What is sizing? What are the different methods of sizing used in laboratory? **07**
- (b) Explain the forth-flotation method used in mineral processing **07**
- OR**
- Q.3** (a) Draw simplified flow sheet for concentration of Copper Sulphide ore. **07**
- (b) What is screening? Give different types of screens in detail. **07**
- Q.4** (a) Write note on Jigging process. **07**
- (b) Write about different types of clasiffiers? Explain any one mechanical classifier **07**
- OR**
- Q.4** (a) Short note on heavy media seperatrion. **07**
- (b) What is magnetic separation? Which are the materials usually separable by magnetic separation? **07**
- Q.5** (a) Explain the drying and dewatering process for coal. **07**
- (b) What is comminution & its objectives ? Give different stages of size reduction with size ranges. **07**
- OR**
- Q.5** (a) What is Thickening process ? Draw a simplified diagram showing common eatures of a conventional thickener . **07**
- (b) Explain briefly on electrostatic separator. **07**
