

Seat No.: \_\_\_\_\_  
No. \_\_\_\_\_

Enrolment

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**BE - SEMESTER-VII • EXAMINATION – SUMMER • 2015**

**Subject Code: 172207**

**Date: 06/05/2015**

**Subject Name: Rock Fragmentation**

**Time: 02.30pm-05.00pm**

**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) Briefly explain properties of explosive. **07**  
(b) Mention different types of drill machines and drill bits used for drilling in mines. **07**
- Q.2** (a) Write a short note on popularly used explosive ANFO and also sketch a clear diagram of a drilled hole charged by ANFO. **07**  
(b) What do you understand by slurry and emulsion explosives; in what conditions such explosives are used? **07**
- OR**
- (b) Explain principal of down-the-hole (DTH) drilling. **07**
- Q.3** (a) Mention various blast initiating devices for blasting in mines. **07**  
(b) Explain briefly factors affecting drill-ability of rock. **07**
- OR**
- Q.3** (a) What are cap sensitive explosives? Draw a neat sketch of delay detonator. **07**  
(b) Briefly explain controlled blasting and How it can be achieved? **07**
- Q.4** (a) Explain mechanism of rock blasting. **07**  
(b) Write a short note on explosive loading system for large diameter hole. **07**
- OR**
- Q.4** (a) Explain briefly primers used for blasting. **07**  
(b) Explain blast monitoring techniques. **07**
- Q.5** (a) Write a short note on ground vibration and air blast due to blasting. **07**  
(b) What is secondary blasting and how it is done in mines? **07**
- OR**
- Q.5** (a) What are the causes of flyrock and how such unexpected projections can be calculated? **07**  
(b) With the help of neat sketch explain geometrical parameters for bench blasting. **07**

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