

GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Subject Code: 2152206**Date: 10/12/ 2015****Subject Name: Underground Coal Mining****Time: 10:30am to 1:00pm****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) What is coal? Explain the theories of coal. **07**
(b) Explain the classification on underground coal mining method. **07**

- Q.2** (a) Explain hydraulic profile and rate of stowing. **07**
(b) Explain the working of panels in underground mining. **07**

OR

- (b) Describe the extraction of pillars in contiguous seam. **07**

- Q.3** (a) Describe retreating methods of Long wall system. **07**
(b) What is the factor affecting choice of mining method in u/g mine? **07**

OR

- Q.3** (a) Describe depillaring system for a coal seam 3.5 m thick in board & pillar methods. Also explain sequence of pillars extracted with sketch. **07**

- (b) Write notes on : (1) Board & pillar method. **07**

- Q.4** (a) Write characteristics of roofs, Floors and associated rocks affects the working in underground coal mines? **07**

- (b) What is Pneumatic stowing & mechanical stowing? Explain it. **07**

OR

- Q.4** (a) Explain meaning of following terms : (1) incubation period , (2) Cyclic Long wall and non cyclic long wall methods. **07**

- (b) What are the disadvantages of stowing methods? **07**

- Q.5** (a) Describe behavior of roof during depillaring with caving. **07**

- (b) Explain the working of (a) load haul dumper (b) side discharge loader. **07**

OR

- Q.5** (a) What are the precautions against fire during and after depillaring operation? **07**

- (b) What is stowing? Explain different stowing methods any one? **07**
