

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (OLD) EXAMINATION – WINTER 2018****Subject Code: 182202****Date: 15/11/2018****Subject Name: Advance Mining Methods****Time: 02:30 PM TO 05:00 PM****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) Describe principles of operation and design of power support with neat sketch. **07**
(b) Explain general consideration before adopting horizon mining. **07**
- Q.2** (a) Discuss the factors affecting choice of thick seam mining method. **07**
(b) What do you mean by underground coal gasification? Explain factors affecting underground coal gasification. **07**
- OR**
- (b) What do you mean by hydraulic mining? Explain layout of hydraulic mining with neat sketch. **07**
- Q.3** (a) Explain horizon mining with neat sketch. **07**
(b) Explain support system of longwall faces and depillaring. **07**
- OR**
- Q.3** (a) Explain suitable conditions for selection of hydraulic mining in brief. **07**
(b) Explain the principle and operation of hydraulic mining with neat sketch. **07**
- Q.4** (a) Explain problems of thick seam mining. **07**
(b) Explain sublevel caving method with neat sketch. **07**
- OR**
- Q.4** (a) Explain problems of thin seam mining. **07**
(b) List out various methods used in thin seam extraction. Explain any one in brief with neat sketch. **07**
- Q.5** (a) Discuss the future scopes in underground coal gasification? **07**
(b) Write advantages and disadvantages of underground coal gasification. **07**
- OR**
- Q.5** (a) Explain deep-sea mining for manganese nodules. **07**
(b) Explain hydro-chemical and biochemical methods of mining. **07**
