

Code No: R09222602

R09

SET-1

B.Tech II Year - II Semester Examinations, April-May, 2012
MINING METHODS AND UNIT OPERATIONS
(Mining Machinery)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- - -

1. Write brief notes on
 - a) Open pit mining
 - b) Quarrying
 - c) Auger mining.[5+5+5]

2. Write brief notes on
 - a) Bulldozer
 - b) Dumpers or tippers
 - c) Road grader.[5+5+5]

- 3.a) Explain underground mining methods.
b) Write advantage underground mining methods.
c) Disadvantage of underground mining methods. [7+4+4]

4. Write the following equipments uses:
 - a) A dipper shovel
 - b) A scraper
 - c) A dragline.[5+5+5]

- 5.a) What is longwall method? How it is classified?
b) Explain Advantage of longwall method.
c) Disadvantage of longwall method. [7+4+4]

6. What is the cope and what is the limitation of working a seam by open cast mining? And describe about hydraulic mining. [15]

7. Describe the following terms:
 - a) Drift
 - b) Cross cut
 - c) Raises
 - d) Winzes.[15]

8. Describe the following terms:
 - a) Room and pillar mining
 - b) Stop and mining
 - c) Shrinkage stoping.[15]

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SET-2

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Time: 3 hours

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Answer any five questions
All questions carry equal marks

- - -

- 1.a) What is the surface mining? Explain surface mining methods.
b) Advantage of surface mining methods.
c) Disadvantage of surface mining methods. [7+4+4]
2. Write brief notes on
a) Front end loader
b) Scraper
c) Road grader. [5+5+5]
3. Write brief notes on
a) Room and pillar mining
b) Stope-and-pillar mining
c) Cut –and fill stoping. [5+5+5]
4. Detailed explain any five underground mining equipments. [15]
5. Give the cycle of operations at a double unit longwall face (retreating) using coal cutting machines and chain conveyor at the face in conjunction with hydraulic stowing. Stage the distances from the face of the conveyor props and sand boxing. [15]
6. What type of equipment used in a mechanized quarry? Describe the mining method for inclined seams and thick seams. [15]
7. What is classification of underground metal mining methods? Explain any two underground mining in India. What equipments are uses in underground metal mining? [15]
8. Write details notes on:
a) VRC methods
b) Sub-level caving
c) Block caving. [5+5+5]

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SET-3

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(Mining Machinery)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- - -

1. Explain surface mining methods
a) Open pit mining
b) Quarrying
c) Open cast (strip) mining
d) Auger mining. [15]
2. Explain the unit operation and equipments in surface mining
a) Tractor shovel
b) A dipper shovel
c) A pull shovel or back hoe
d) Road grader. [15]
3. Write notes on:
a) How is roof tested in a coal mine? What are the indications of a bad roof?
b) Write underground mining methods
i) Room & pillar mining ii) Longwall mining. [7+8]
4. Write details note of underground mining equipments. Explain the factor influences the selection of panel size. [15]
5. Give the cycle of operations at a double unit longwall face (retreating) using coal cutting machines and chain conveyor at the face in conjunction with hydraulic stowing. Stage the distances from the face of the conveyor props and sand boxing. [15]
6. What is the cope and what is the limitation of working a seam by open cast mining? What is the quarriable limit? [15]
7. What is classification of underground metal mining methods? Explain any two underground mining in India. What equipments of use in underground metal mining? [15]
8. Write detail notes on:
a) Stope and pillar mining
b) Shrinkage stoping
c) Sub-level stoping. [15]

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SET-4

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MINING METHODS AND UNIT OPERATIONS
(Mining Machinery)

Time: 3 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- - -

1. Write detail notes on:
 - a) What is boxcut method? Describe about it?
 - b) Give detail information regarding production. Benches and formation and its parameters. [7+8]

2. What are the operations involved in surface mining and what are equipments are using for particular operation? [15]

3. Write detail notes on:
 - a) Types of underground coal mining methods.
 - b) Under what circumstances is the bord and pillar method of working adopted. Why it is generally followed in our country? [8+7]

4. What are the materials used for supports in underground mines? What are the advantages and disadvantages of timber as support material in mines? [15]

5. Write short notes on:
 - a) Cyclic longwall
 - b) prop-free front
 - c) non cyclic longwall
 - d) barry face
 - e) double unit face [3+3+3+3+3]

6. Write detailed notes on:
 - a) Describe the mining methods for inclined seams and thick seams.
 - b) Describe about hydraulic mining? [7+8]

7. Give detailed notes on:
 - a) Explain underground metal mining, shape, size and position of drifts and crosscuts, raises & winzes.
 - b) Explain any two underground mining in India. What equipments of use in underground metal mining? [8+7]

8. Give detailed notes on:
 - a) Stope & pillar mining
 - b) Shrinkage stoping
 - c) Sub-level stoping. [5+5+5]
