

B.E.(with Credits)-Regular-Semester 2012 - Mining Engineering Sem IV
MN403 - Mining Machinery-I

P. Pages : 2

Time : Three Hours



GUG/W/16/3929

Max. Marks : 80

- Notes :
1. Due credit will be given to neatness and adequate dimensions.
 2. Assume suitable data wherever necessary.
 3. Illustrate your answers wherever necessary with the help of neat sketches.
 4. Marks are indicated in the right margin.

1. a) Discuss the factors affecting Pit top layout. 8
b) Describe with neat sketch Pit bottom layout known to you. 8

OR

2. a) Describe with neat sketches different types of wire ropes used in mining applications, Advantages and disadvantages of each. 10
b) Sketch the pockets required to prepare the end of rope for Recapping. 6
3. Under what geo mining conditions the following types of haulages are used? Give advantages and disadvantages of each type. 16
 - i) Direct rope haulage.
 - ii) Gravity rope haulage.
 - iii) Endless rope haulage.
 - iv) Main & tail rope haulage.

OR

4. a) A train of 200 tonnes is drawn up a slope of 1 in 200 against resistance of 60 N per tonne with uniform acceleration which In a distance of 2km increases its speed from 36 to 54 km/hr. Find the power at which the engine is working. 8
b) Compare Diesel Locomotives with trolley wire locomotive used in underground mines. Describe exhaust conditioner of a diesel locomotive. 8
5. What are the different types of conveyors used in mines? Sketch and describe Armoured flexible conveyor. 16

OR

6. Give various classification of Aerial ropeway? State its applicability conditions, Advantages & disadvantages of it. 16
7. What are the different types of drum used in winding? What are the various safety devices provided on winders explain any one with neat sketch. 16

OR

8. a) What are the different types of koepe winders used in mines? 8
Explain with neat sketch any one koepe winders known to you.
- b) Discuss the applicability, advantages, disadvantages of multi rope friction winding. 8
9. a) Explain with neat sketch, various parts of cage suspension gear arrangements. 8
- b) What are the various types of Guides which are used in a shaft? Compare the flexible and rigid guides. 8

OR

10. Write short notes on **any four**. 16
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| a) Keps. | b) Electrical braking of winders |
| c) Over speed control | d) Depth indicators |
| e) Protective roofing | f) Suspended caliper brake |
