



C-14-MNG-304

4269

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DMNG - III SEMESTER EXAMINATION

MINING MACHINERY - I

Time : 3 Hours]

[Total Marks : 80

PART - A

3×10=30

- Instructions :**
- (1) Answer **ALL** questions.
 - (2) Each question carries **THREE** marks.
 - (3) Answer should be brief and straight to the point and shall not exceed five simple sentences.

- | | | |
|----|---------------------------------------------------------------------|---|
| 1 | List stages of manufacturing of wires of ropes. | 3 |
| 2 | Define the terms factor of safety and bending factor of wire ropes. | 3 |
| 3 | Define the terms capping and recapping. | 3 |
| 4 | State the purposes of splicing of wire ropes. | 3 |
| 5 | List various safety devices required in direct rope haulage system. | 3 |
| 6 | State the advantages of the endless rope haulage system. | 3 |
| 7 | State the merits and demerits of belt conveyor system. | 3 |
| 8 | State the applicability of mono cable aerial rope way system. | 3 |
| 9 | List the fittings of centrifugal pumps. | 3 |
| 10 | List the characteristic curves of pumps. | 3 |

4269]

1

[Contd...

PART - B**10×5=50**

- Instructions :**
- (1) Answer any **FIVE** questions.
 - (2) Each question carries **TEN** marks.
 - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- | | | |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| 11 | Explain the field tests to be conducted on wire ropes. | 10 |
| 12 | A wire rope, round stranded with fibre core, has a diameter of 2.54 cm and 120 m length. If the steel has a tensile strength of 160 kg/mm ² , find out (a) the size of the rope, (b) weight of the rope and (c) strength of the rope. (Assume k = 0.36 and s = 52). | 3+3+4 |
| 13 | Describe the method of white metal capping with sketch. | 10 |
| 14 | State the purpose of transportation in mines and give the comprehensive classification of transportation systems in mines. | 10 |
| 15 | Describe the main and tail rope haulage system with a neat diagram along with advantages and disadvantages. | 10 |
| 16 | Describe the scraper chain conveyor system with sketch. | 10 |
| 17 | Write the merits, demerits applicability and limitations of diesel locomotives system. | 10 |
| 18 | Explain the constructional details of turbine pump with a neat diagram. | 10 |