



C20-MNG-404

7463

BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DMNG – FOURTH 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) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Classify wire ropes basing on place of application.
2. State the composition of material of wire ropes.
3. State the purpose of splicing of wire ropes.
4. List any three types of rope haulage used in mines.
5. List any three advantages and disadvantages of direct rope haulage.
6. List any three advantages and disadvantages of main and tail rope haulage.
7. List any three limitations of belt conveyer.
8. Classify the locomotive haulage system.
9. Define the terms (a) pump and (b) total static head.
10. List out the considerations for the selection of pumps.

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

11. (a) Describe the constructional details of locked coil rope with a sketch.

(OR)

(b) List the causes and preventive measures of deterioration of wire ropes.

12. (a) Describe the method of splicing of wire rope with a sketch.

(OR)

(b) Describe the method of interlocking wedge type capping with a sketch.

13. (a) Describe the endless rope haulage system with a sketch.

(OR)

(b) Explain Gravity rope haulage/self-acting incline rope haulage.

14. (a) List the merits, demerits, applicability and limitations of battery locomotives system.

(OR)

(b) Explain exhaust conditioner and flame trap fitted to diesel locomotive.

15. (a) Explain the principle of working and constructional details of reciprocating pump.

(OR)

(b) Describe the principle of working and constructional details of centrifugal pump.

PART—C

10×1=10

- Instructions :** (1) Answer the following question.
(2) The question carries **ten** marks.
(3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

16. Explain space factor, factor of safety, capacity factor and bending factor.

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