



C14-MNG-406

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**BOARD DIPLOMA EXAMINATION, (C-14)
MARCH/APRIL—2018
DMNG—FOURTH SEMESTER EXAMINATION
MINE ENVIRONMENTAL ENGINEERING**

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.

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1. State the purpose of ventilation.
2. Compares air screw fan with centrifugal fan in any three aspects.
3. List the limitations of natural ventilation.
4. List the merits and demerits of centrifugal fan.
5. Enumerate the methods of reducing the mine air resistance.
6. Define the term 'neutral line'.
7. List the ventilation devices used for coursing of mine air current.
8. Define the term 'equivalent orifice'.

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9. Define the term 'ventilation survey'.
10. Define the term 'kata factor'.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Describe the constructional details and functions of each part and drive of air screw fan.
12. Calculate the w.g. produced by a 3 m dia. fan running at 240 r.p.m. and delivering $6000 \text{ m}^3 / \text{min}$ of air, if the blades are (a) radial, (b) bent backward at 35° and (c) bent forward at 35° . Given radial velocity of flow = 3 m/sec and air density = 1.2 kg/m^3 .
13. Explain the ascensional and descensional ventilation system.
- * 14. Explain the sources of leakage and preventive measures of leakage of air.
15. Explain the splitting of air and list the merits and demerits of splitting.
16. State the necessity, conditions and factors to be considered for location of booster fan.
17. Explain different methods of quantity survey.
18. Explain the objectives of pressure survey.
