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C16-MNG-**407**

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BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER/NOVEMBER-2018
DMNG - FOURTH SEMESTER EXAMINATION

MINE VENTILATION

Time : 3 Hours] [Total Marks: 80

PART-A

3X10=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. State the purpose of Ventilation
2. Define the term up cast shaft and downcast shaft with sketch
3. Define the terms manometric efficiency, theoretical depression.
4. List the methods of controlling and quality of air delivered by the fan.
5. List the ventilation devices used for coursing the air current
6. Define the term “Equivalent Orifice”
7. List the merits of splitting air
8. State the necessity of Booster fans in underground mines.
9. List the equipment required for Ventilation survey.
10. List the methods of quantity survey.

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PART-B

10X5=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. The mean air temperature, in a D.C. shaft of 400m deep is 28^0 C and in the U.C. shaft is 38^0 C. Calculate
    i. The motive column and
    ii. The N.V.P. Assuming average barometric pressure in D.C. shaft to be 750mm of Hg.
12. Describe the constructional details of backward bladed centrifugal fan and function of each part and drive
13. A 200m long longwall face is ventilated by two gate roads each 300m long. Calculate the quantity that will flow along the face when a ventilating pressure of 150 Pa is applied across the gate roads at the out bye end. The face has a resistance of 0.6 $Ns^2 m^{-8}$ per 100m length. Neglect leakage between gate roads.
14. Explain the ASCENSIONAL and DESCENSIONAL Ventilation system.
15. (a) List the sources of leakages of air in a mine
    (b) List the preventive measures of leakage of air
16. Explain the system of auxiliary ventilation under the situations in a single heading
    (i) with brattice cloth
    (ii) with ducting
17. Explain the different methods of Pressure Survey.
18. Explain the objectives of ventilation survey.

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