

Name:

Enrolment No:



## UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

### Online End Semester Examination, December- 2020

Course Name: Mine Hazard & Rescuing Operations

Semester: VII

Programme Name: B. Tech, Mining Engg

Time: 03 hrs

Course Code: PEMI 4001

Max. Marks: 100

#### SECTION A (30 Marks)

Q 1	a. FSR stands for ----- b. serviceable period for gas mask is ----- c. Catalytic oxidation in Gas mask is caused by ----- d. Quantity of oxygen required for pre-flush the breathing circuit is ----- e. Non-regenerative type breathing apparatus is otherwise known as -----	05	CO1
Q 2	a. Fraction of dust reaches the gas exchange portion of lungs is ----- b. Dust due to Sulphide ores is categorized as ----- c. Dust found on unpaved roads is known as ----- d. To find out TWA of dust, sampling period should be -----of 8hrs e. MAC stands for -----	05	CO2
Q 3	a. Max. permissible height of coal stack is ----- b. Graham's Index for open fire ----- c. Activated sorption is significant at about ----- degree. d. Relative ignition temperature is related to ----- of coal e. Size of pyrite governing spontaneous heating is -----	05	CO2
Q 4	a. Size of loam used for construction of stopping is ----- b. Breathing equipment is not used in -----type of firefighting. c. In local inertization, Oxygen content on fire-seat reduced to ---by volume d. Pipe of ----- diameter for bleeding-off excess pressure of firegas at stopping wall e. Risk index is related to mine environmental index and -----.	05	CO2
Q 5	a. Deduce the formula to find out methane/ fire damp emission rate b. What is tidal volume? c. Define lag on ignition	2+2+1 =05	CO3
Q 6	a. What is the composition of Hoolamite tube? b. Explain the dual advantage of using N <sub>2</sub> gas for fire isolation c. Write down the composition of foaming compound d. Define medium liability index of coal e. Define Graham's Index	05	CO3

#### SCETION B (10\*5=50 Marks)

Q 7	Auto oxidation in coal is one of the primary reasons for coal fires. In a given condition, will firedamp explode by itself? If not, What other conditions will lead to explosion possibilities?	10	CO4
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