

CCT Weekly Science Practice

SAFETY FIRST

News Article: Malviya Nagar fire incident is an example of what makes Delhi a tinderbox

According to officers of the Delhi fire services, the fire incident in Khirki Extension, one of the enclaves in Malviya Nagar—a locality in South Delhi—was of the “highest magnitude” so far this season. According to media reports, rubber stored in inflammable metallic and plastic boxes caught fire. Moderate wind also fanned the blaze. Burning of rubber and plastics leads to highly hazardous level of CO (carbon monoxide) and HCN (hydrogen cyanide) emission.

Question 1:

Which of the following is the correct combination to cause fire?

- A. Combustible substance, Nitrogen, Ignition temperature
- B. Combustible substance, Oxygen, Heat
- C. Combustible substance, Oxygen, Ignition temperature
- D. Combustible substance, Carbon dioxide, Ignition temperature

Question 2:

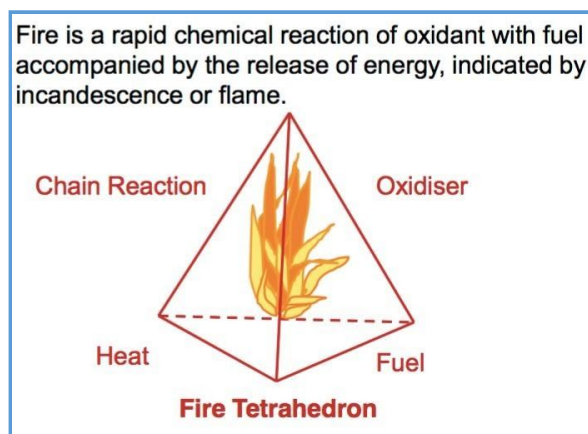
What is the acronym PASS in a fire extinguisher?

- A. Push, Aim, Squeeze, and Sweep
- B. Pull, Aim, Shout, and Sweep
- C. Pull, Alter, Squeeze, and Sweep
- D. Pull, Aim, Squeeze, and Sweep

Question 3:

Water can not be used to extinguish a fire in a petrol pump. Why?

- A. Water will convert to steam which can cause burns.
- B. Petrol floats on water and continues to burn.
- C. A large quantity of water will be needed which is not easily available near petrol pumps.
- D. Water aggravates the fire in this case.

Question 4:

Fire extinguishers work on the principles of smothering or cutting off the oxygen supply; starving the fire by removing the fuel; or inhibiting the chain reaction by applying suitable dry powder. During an accidental fire, which of the following emergency responses are appropriate?

- A. Sprinkle water
- B. Determine what is burning
- C. Use the right type of extinguisher for fighting the fire.
- D. Use the fire extinguisher only if you have attended practical training.
- E. On hearing the alarm evacuate the building and assemble at the designated assembly point.
- F. Use lifts to move quickly
- G. As you evacuate, close the doors of the rooms.

Question 5:

Carbon Monoxide (CO) is a colourless, tasteless and non irritating gas that is formed due to incomplete combustion of material. Why is Carbon Monoxide often called a *Silent Killer*?

Sources:

- <https://www.downtoearth.org.in/news/environment/malviya-nagar-fire-incident-is-an-example-of-what-makes-delhi-a-tinderbox-60697>
- http://www.iitb.ac.in/safety/sites/default/files/Fire%20Safety_0.pdf

Key for Scoring and Interpretation

Answer 1: C

Answer 2: D

Answer 3: B

Answer 4:

Appropriate responses are B, C, D, E and G. Incorrect emergency response to Fires are A and F.

- Lifts should not be used for evacuation in fires as they may fail and trap people inside,
- As one evacuates, it is advised to close the doors of the rooms (not lock it) as this will slow down the spread of smoke and fire.

Answer 5:

As Carbon Monoxide cannot be detected by odour/ smell or be seen, its presence in the room is not known until symptoms of exposure are experienced. It is produced by the incomplete burning of carbon containing fuels (coal, wood etc.) along with carbon dioxide and few other gases. If this gas is inhaled, it reduces the amount of oxygen carrying capacity of the blood and oxygen supply to vital organs including the brain is hampered. It can result in headache, dizziness, weakness, confusion, disorientation, and in extreme cases, unconsciousness, and even death.

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