FIS Chapter 7 Fires by Property Type

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**Answer 01**

The Overhaul refers to the process of opening ceilings, voids, walls, partitions and ventilations to examine for fire spread after and during the firefight operations. Before the fire is controlled the overhaul is conducted to check which places are affected. This also helps in planning fire fight strategy.

The overhaul should be kept minimum, so that fire investigators can examine and document the fire scene. Overhaul may contaminate the fore scene in case of arson, or the evidence to origin of fire may vanish away.

**Answer 02**

Post fire indicators reveal a lot about the cause, spread and origin of the fire. The post indicators include fire patterns on the building, smoke, air track, heat, and the condition of material. These all indicators also allow an investigator to learn about time at which fire might have started and duration of fire. With reveal this information, it becomes easy to investigate and document a fire scene.

**Answer 03**

Suppression efforts are made to control the fire. However, they may affect the evidence investigators get through the post fire indicators and fire spread. The suppression efforts like ventilation sometimes allows the fire to grow into more spaces. Due to which the original fore spread and extent becomes unknown. Also, the spraying of water, changes the direction of fire due to the initial direction cannot be found. Moreover, the spraying also washes away the important evidence like fingerprints from the scene.

**Answer 04**

 Firefighter can give information of multiple things about a fire scene including the origin of fire as they are first witness to fire, spread of fire, intensity of fire, estimate of victim and injured, and if there were any signs of foul play. It all can help the investigator in their process,

**Answer 05**

V-pattern is the most common search pattern for the structure fire. The advantages of V-pattern include that it can point towards the fire origin based on its V shape. The upward or downward shape of V also determines the direction of fire. In addition to this the spread of fire can also be estimated according to the angle at which V pattern is formed. It can also detect if a flammable liquid caused the fire as an inverted “V” pattern is formed in this case, principally in zones where the fuel load is not adequate to create rapid fire from accelerant.

**Answer 06**

The documentation of fuel load is important to reconstruct and document because it helps investigate deeply about the cause and start of fire. In cases where it is arson, it helps point out towards important evidence and facts about the fire.

**Answer 07**

The angle of the fire pattern on wall or furniture reveals much about fire during investigation. The angle of fire points out toward the origin as well as the accelerant that can be used to start the fire.

**Answer 08**

The heat horizon of the fire is basically the level or height of the fire. This often leaves a mark in the areas from where the fire has started. The changes in the pattern indicate that there are ventilations nearby.

**Answer 09**

The ventilation can affect the fire patterns in different ways. With ventilations the smoke can spread and change directions which changes the fire pattern. Also, it can spread the fire in more directions than original fire, due to which new patterns are formed. Ventilation can also intensify the fire and due to this, the fire pattern change.

**Answer 10**

Fuels like methane and pool sanitizers, produce deepest burn in a fire.

**Answer 11**

The radiant heat flux is directly related to the charring rate of wood. With more of the radiant heat flux, the charring on wood increase and the intensity of fire also increases.

**Answer 12**

Glass can serve as a valuable evidence of cause and spread of fire in a fire investigation. It can be used for the analysis of origin and fuel for fire, and also can link suspects to the scene. Glass on a fire scene can be recognized as a transparent or clear, textured, and frosted. The large samples are collected and evaluated according to the shape, size and thickness. More characteristics can be revealed but they take more detailed and comprehensive laboratory examination.

**Answer 13**

Content inventory is very important for two reasons. Firstly, a well-documented inventory can reveal about the intensity of fire based on which material was burnt in the fire. It estimated the spread and origin of fire also. Secondly, with the officially documented inventory one can claim insurance. It is also of benefit to prove the validity of insurance and avoid any fraud claims.

**Answer 14**

A fire scene should be documented in four ways

1. Evidence and witness statement
2. Photographs, Slides and videos
3. Computer Modeling
4. Computer graphic stimulations

(Icove & Haynes, 2017)

**References**

Icove, D., & Haynes, G. (2017). *Kirk’s Fire Investigation, 8th Edition*.