Chapter 9

Evidence Collection and Preservation

Section A: True/False

Directions: V provided.	Write True or False on the blanks provided; if False, write the correct statement on the lines
1	Evidence collected by fire investigators becomes the data used to develop and test opinions of hypotheses regarding the cause of a fire or explosion. (257)
2	Empty containers in the area of the scene are a type of evidence. (257)
3	Physical evidence includes witness observations and statements, and records and documents obtained after the fire. (258)
4	The chain of custody tracks an item of evidence from the time it is identified as such, unti released to the custody of someone else. (260)
5	All items that support the findings of the investigation should be addressed by the chain o custody. (261)
6	During the evidence collection process, investigators should touch items with their bare hands (261)
7	The methods used for collecting evidence and samples depend on material characteristics including location within the scene. (261)



8	An evidence log sheet lists the most significant items collected during the investigation. (263)
9	To prevent the cleaning process from contaminating evidence, investigators should clean tools away from the collection site. (266)
10	Fire investigators should use fire fighting gloves while collecting samples. (266)
11	Common plastic bags are suitable for fire debris analysis. (268)
12	Fire investigators need to collect large volumes of ignitable liquids for laboratory analysis. (269)
13	Fire investigators should operate controls, circuit breakers, or other components of an electrical system during the scene examination. (271)
14	When marking electrical evidence, fire investigators should tag just one end of any wire collected, indicating the end connected to the device. (273)
15	When appliances or equipment are suspected ignition sources, they should be preserved as evidence. (274)
16	Devices, controls, or other equipment may be X-rayed after completing a destructive type of examination. (274)

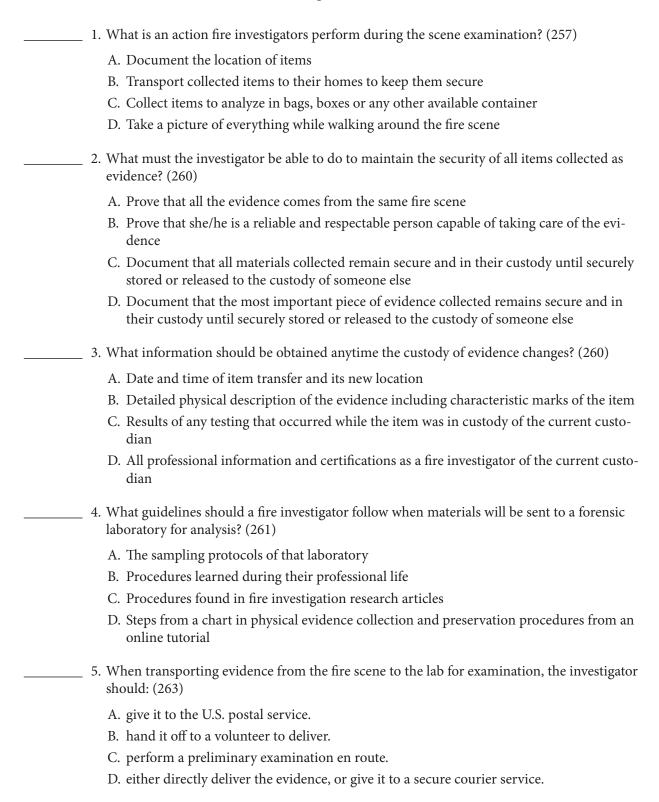
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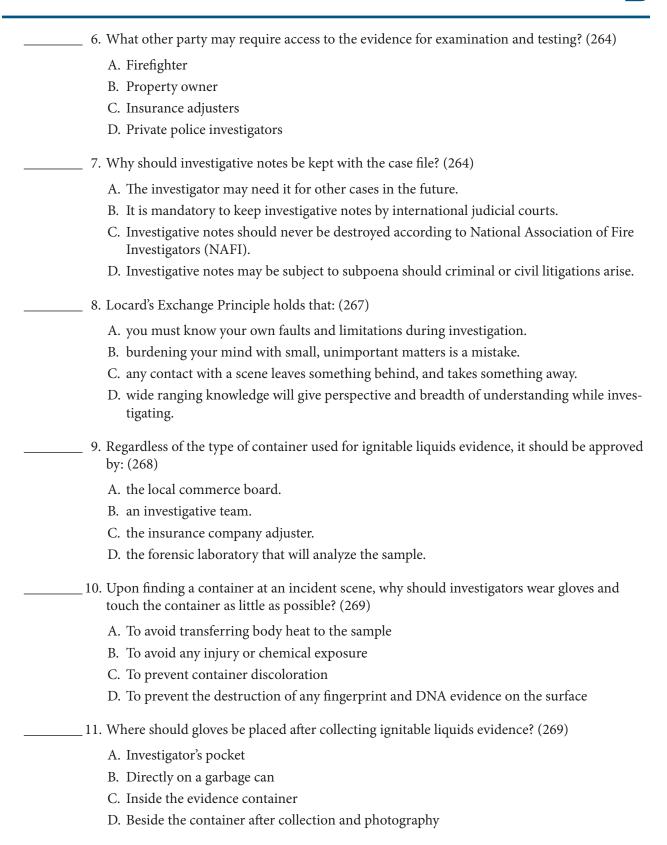
17.	7 The use of plastic bags is highly recommended to package dry cigarettes and butts as evider (278)			
Sec	tion B: Fill in the Blank			
Dire	ctions: Write the correct answer on the blanks provided.			
1.	The scientific method used by fire investigators demands that investigators remain and maintain an open mind while collecting and analyzing data. (258)			
2.	Investigators may also collect to show that a particular device or scenario can be disregarded from the ignition or fire-spread scenario. (258)			
3.	Tire or shoe impressions are considered a type of found at a scene. (259)			
4.	Each person who has possession of an item of evidence must be able to attest to the fact that the item was not subject to or while it was in their custody. (260)			
5.	The final disposition of evidence may include legal requirements including			
6.	During evidence collection, a sample may be selected to show a difference between the ambient conditions at a scene and the selected evidence sample. (263)			
7.	The from where the evidence and the comparison samples were removed should be documented. (263)			
8.	Once evidence is collected, it must be protected from or before it is analyzed or presented in court. (264)			
9.	The most common container used for ignitable liquid samples is a clean, unused with an airtight friction lid. (268)			
10.	Electrical wiring should be from the suspected area of failure, preferably to where the insulation is still intact, if possible. (272)			



Section C: Multiple Choice

Directions: Write the correct answers on the blanks provided.







12. What guidelines should a fire investigator use to collect suspect liquids? (269)
A. Collect a small quantity of the suspect liquid
B. Collect a large quantity of the suspect liquid
C. Collect samples of any water using a glass straw
D. Collect samples of any water layer on the surface of the suspect liquid
13. If fire debris material is suspected to contain an ignitable liquid, fill the container ful (270)
A. 1/8
B. 1/3
C. 2/3
D. 4/3
14. What should the fire investigator do before attempting to analyze or collect portions of an electrical system? (271)
A. Gather information about wiring quality and brand
B. Gather information about the wiring rating and the date when the system was installed
C. Make sure electrical bill was paid and the electrical system was in use by the time of the fire
D. Make certain that the system is deenergized and that all sources of power to the system are disconnected
15. If soot is present on only one side of a broken glass from a fire scene, this indicates: (275)
A. the glass was broken after the fire.
B. the glass was broken before the fire.
C. the glass was broken during the fire.
D. nothing for the fire investigation.
Section D: Short Answer
Directions: Write the correct answers on the lines provided.
1. Give three examples of types of evidence that usually require a technical expert for collection. (262)
2. List three ways that contamination of evidence can occur. (265)

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3.	What are three]	properties that affect the collection of ignitable liquids? (268)
4.	Why should soi	l samples be placed in and stored in a freezer as soon as possible after collection? (270)
5.	List two features	s that a photograph of electrical wiring suspected of a failure should show? (271)
6.	Give three examelectrical eviden	nples of precautions that the fire investigator should take when collecting and packaging ace? (272)
a.c.	tion E: Mat	china
		correct answers on the blanks provided.
		e collection guidelines
	Match the evide	ence type with the collection guideline.
	Evidence types:	
	A.	Wood
	В.	Branch circuit
	C.	Paper
	D.	Glass
	Collection guid	elines:
	1.	Wrap large items in paper, plastic, or fabric, if possible, to prevent additional damage. (276)
	2.	Document position/condition of the protective fuse. (272)
	3.	Remove and individually wrap each of these pieces before carefully packaging them to prevent further breakage. (275)
	4.	Take close-up photographs of documents or materials with writing or printing on them. (277)