Chapter 24 Test

Name: _		Date:
Directions	Write	e the correct letter on the blank before each question.
	1.	In Step 2 of the APIE process, responders: (1047) [1072, 5.3.1]
		 gather information and attempt to understand the current situation.
		B. perform tasks determined in the planning stage and direct actions to mitigate the incident.
		C. use the information gathered to determine what actions need to be taken to mitigate the incident.
		D. monitor progress to see whether the response plan is working, and continue throughout the incident.
	2.	In Step 4 of the APIE process, responders: (1047) [1072, 5.3.1]
		 A. gather information and attempt to understand the current situation.
		B. perform tasks determined in the planning stage and direct actions to mitigate the incident.
		C. use the information gathered to determine what actions need to be taken to mitigate the incident.
		D. monitor progress to see whether the response plan is working, and continue throughout the incident.
	3.	Hazardous materials or dangerous goods are: (1048) [1072, 4.2.1]
		 A. not a serious problem. B. always easy to identify. C. rarely encountered by firefighters. D. substances that possess harmful characteristics.
	4	•
	4.	Hazmat incidents often: (1049) [1072, 4.2.1]
		A. do not pose any threat.B. involve international news coverage.
		C. are less complex than other types of emergency incidents. D. are more complex than other types of emergency incidents.

x	5.	Acute health effects are: (1049) [1072, 4.2.1, 5.3.1, 5.5.1]
		 A. lethal but take a long time to show up. B. long-term effects that may take years to appear. C. short-term effects that may take years to appear. D. short-term effects that appear within hours or days.
	6.	 A chronic exposure to a hazardous material is: (1049) [1072, 4.2.1, 5.3.1, 5.5.1] A. lethal. B. long-term or reoccurring. C. unlikely to cause health problems. D. a single exposure or several repeated exposures within a short time period.
	7.	Breathing hazardous materials in through the nose or mouth is defined as: (1050) [1072, 4.2.1, 5.3.1, 5.5.1] A. injection. B. ingestion. C. inhalation. D. absorption.
	8.	The process of taking in hazardous materials through the skin or eyes is defined as: (1050) [1072, 4.2.1, 5.3.1, 5.5.1] A. injection. B. ingestion. B. inhalation. D. absorption.
	9.	A chemical that burns or destroys living tissue is an example of: (1051) [1072, 4.2.1, 5.3.1, 5.5.1] A. toxicity. B. corrosivity. C. energy release. D. chronic exposure.

 10.	inju	micals or biological substances that cause sickness, illness, or ry by doing damage on the molecular scale are an example of: 51) [1072, 4.2.1, 5.3.1, 5.5.1]
	A. B. C. D.	toxicity. corrosivity. energy release. chronic exposure.
 11. F	ires a	and explosions are examples of: (1052) [1072, 4.2.1, 5.3.1, 5.5.1]
	A. B. C. D.	toxicity. corrosivity. energy release. chronic exposure.
 12.	Whi <i>5.2.</i>	ch statement about gases is most accurate? (1055) [1072, 1]
	A. B. C. D.	Gases do not present a breathing/inhalation hazard. It is quite easy to contain gases for mitigation purposes. It is easiest and safest to detect gases by sense of smell. Gases have an undefined shape and keep expanding if uncontained.
 13.	Whice <i>5.2.1</i>	th statement BEST describes compressed gas? (1056) [1072,
	A. B.	Gas that has expanded upon release and escaped mitigation Confined gas that at normal temperatures exists in both liquid and gaseous states
	C.	Any gas that is kept at pressures and/or temperatures higher than ambient conditions
	D.	Gas that, at normal temperature, exists solely as a gas when pressurized in a container
 14.	The	conversion of a liquid to vapor: (1056) [1072, 5.2.1]
	A. B. C. D.	makes it easier to detect. makes it easier to contain. increases the material's mobility. decreases the material's mobility.

 15.	Which statement about solids is most accurate? (1058) [1072, 5.2.1]
	 A. The process of sublimation is rapid and violent. B. The particle size of solids may influence their behavior. C. Solids tend to be very mobile unless acted upon by exterior forces. D. Unlike liquids and vaporous liquids, solids do not have inhalation hazards.
 16.	Sublimation occurs when a material transitions directly from a: (1058) [1072, 5.2.1]
	A. solid to a gas.B. gas to a solid.C. gas to a liquid.D. solid to a liquid.
17.	What is the pressure exerted by a saturated vapor above its own liquid in a closed container? (1059) [1072, 5.2.1] A. Vapor density B. Specific gravity C. Vapor pressure D. Solubility/miscibility
18.	Liquid changes to a gas at the point. (1059) [1072, 5.2.1] A. flash B. boiling C. freezing D. sublimation
19.	A boiling liquid expanding vapor explosion (BLEVE) is caused by: (1060) [1072, 5.2.1] A. sublimation of a boiling liquid. B. application of a pressure stream. C. a heated liquid or gas expanding. D. inadequate internal vessel pressure.

 20.		s with a vapor density of will rise quickly and spread to a geographical area. (1060) [1072, 5.2.1]
	В. С.	one less than one more than one one through five
 21.		ally water-soluble chemicals will penetrate into the lower ratory system and cause: (1061) [1072, 5.2.1]
	B. C. D.	sudden gastrointestinal distress. itching, scratching, and bloody skin lesions. immediate symptoms such as coughing and throat irritations. delayed symptoms that include pulmonary edema and coughing up blood.
 22.		flammable liquids will float on water because they have: (1062) 2, 5.2.17
	B. C.	high solubility. high miscibility. specific gravities less than one. specific gravities greater than one.
23.	great A. B. C.	sity determines the ease with which a product will flow and is ly affected by: (1062) [1072, 5.2.1] sublimation. temperature. specific gravity. appearance and odor.
 24.		concentration (in air) at which the "average person" can smell a cular compound is the: (1063) [1072, 5.2.1]
	B. C.	solubility. vapor density. odor threshold. vapor pressure.

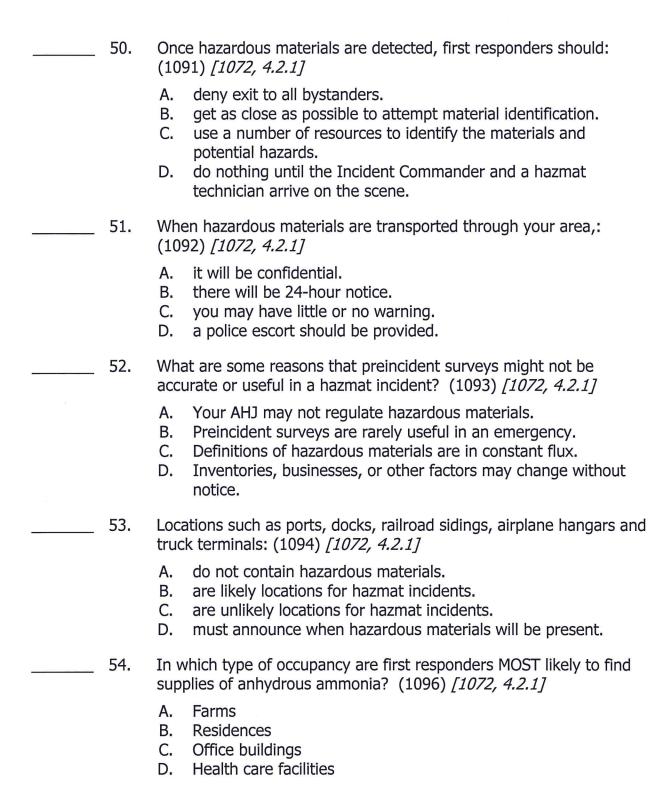
 25.	The temperature at which a liquid or volatile substance gives off enough vapors to support continuous burning is its: (1064) [1072, 4.2.1, 5.2.1]
	A. fire point.B. flash point.C. flammable range.D. autoignition temperature.
 26.	Flammable gases have: (1065) [1072, 4.2.1, 5.2.1]
	A. no flash point.B. higher fire points.C. very low flash points.D. no autoignition temperature.
 27.	The lowest concentration (or lowest percentage of the substance in the air) that will produce a flash of fire when an ignition source is present is the: (1065) [1072, 4.2.1, 5.2.1]
	A. LLL (lower liability limit).B. LFL (lower flammable limit).C. UEL (upper explosive limit).D. UFL (upper flammable limit).
 28.	A fuel that has moved beyond its upper flammable limit will: (1065) [1072, 4.2.1, 5.2.1]
	 A. be too rich to burn. B. flash if exposed to an ignition source. C. immediately reach its autoignition temperature. D. reach the correct ratio of fuel to oxygen to sustain combustion.
 29.	What type of materials break down fatty skin tissues and can penetrate deeply into the body? (1066) [1072, 4.2.1, 5.2.1]
	A. AcidsB. BasesC. GasesD. Vapors

 30.	The reducing agent in the fire tetrahedron acts as the source for the reaction. (1067) [1072, 4.2.1, 5.2.1]
	A. fuel B. oxygen C. activation D. autoignition
31.	What will increase the rate of polymerization and decrease the activation energy necessary for further polymerization? (1069) [1072, 4.2.1, 5.2.1] A. Fuel B. Catalyst C. Inhibitor
	D. Contamination
 32.	The most energetic and hazardous forms of radiation are: (1070) [1072, 4.2.1, 5.2.1]
	A. ionizing.B. nonionizing.C. visible light.D. electromagnetic.
 33.	Which type of radiation can be reduced or stopped by a layer of clothing, a thin sheet of metal, or a thick Plexiglass? (1071) [1072, 4.2.1, 5.2.1]
	A. AlphaB. BetaC. GammaD. Neutron
 34.	Which type of ionizing radiation consists of high-energy photons? (1071) [1072, 4.2.1, 5.2.1]
	A. Alpha B. Beta C. Gamma D. Neutron

 35.	Which statement about radiation is accurate? (1073) [1072, 4.2.1, 5.2.1]
	 A. Exposure to radiation will make a person radioactive. B. Exposure to any amount of radiation will cause radiation sickness.
	C. Radioactive contamination occurs when radiation passes through people or things.D. Damage is often described in terms of dosage, indicating the amount of energy absorbed by matter.
 36.	The damaging effects of ionizing radiation occur at the level. (1073) [1072, 4.2.1, 5.2.1]
	A. organB. cellularC. externalD. environmental
 37.	Asphyxiants, irritants, convulsants, and carcinogens are types of: (1077) [1072, 4.2.1, 5.2.1]
	A. toxics.B. radiation.C. polymers.D. corrosives.
 38.	Which type of biological/etiological hazard spreads mostly through the bite of infected arthropods? (1078) [1072, 4.2.1, 5.2.1]
	A. VirusesB. BacteriaC. RickettsiasD. Biological toxins
 39.	Most diseases are spread via contact with: (1079) [1072, 4.2.1, 5.2.1]
	A. toxicity.B. rickettsias.C. body fluids.D. radioactive substances.

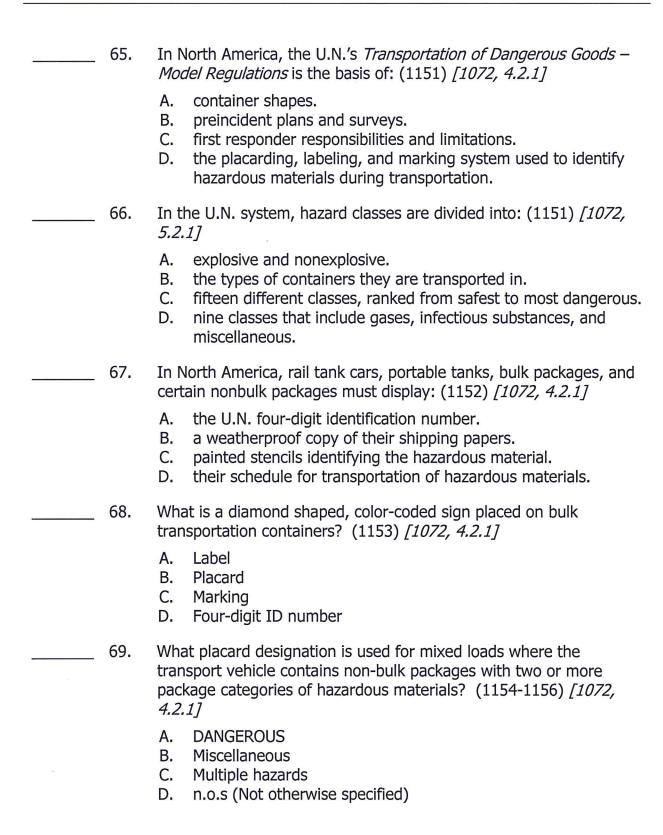
 40.	What is the first step in the sequence proposed by the General Hazardous Materials Behavior Model (GEBMO)? (1080) [1072, 5.2.1]
	A. StressB. ReleaseC. ExposureD. Dispersion
41.	A container making noises from expansion or contraction may indicate that the container has been exposed to energy. (1080-1081) [1072, 4.2.1] A. thermal B. chemical C. mechanical D. radiological
42.	Visible corrosion, or other degradation of a container, may indicate that a container is undergoing energy. (1081) [1072, 4.2.1] A. thermal B. chemical C. mechanical D. radiological
43.	Which type of container breach has been documented as causing a BLEVE? (1083) [1072, 4.2.1] A. Puncture B. Split or tear C. Runaway cracking D. Broken attachments
44.	What type of container release is characterized by a fast release of pressurized hazardous material through properly operating safety devices? (1084) [1072, 4.2.1] A. Spill/leak B. Detonation C. Rapid relief D. Violent rupture

 45.	What type of dispersion pattern forms an irregularly shaped pattern f an airborne hazardous material where wind and/or topography affluence the downrange course from the point of release? (1085) [1072, 4.2.1]
	A. Cloud B. Plume C. Particulate D. Hemispheric
 46.	computer software programs such as CAMEO and ALOHA can be sed to: (1090) [1072, 4.2.1]
	 model dispersion patterns. determine the origin of the container. predict ruptures from mechanical stress. make notifications downwind of a container release.
 47.	short-term contact or impingement is one that takes place over: 1090) [1072, 4.2.1]
	milliseconds or seconds. minutes or hours. days, weeks, or months. years or generations.
 48.	he three mechanisms of harm in a container hazardous materials acident are: (1091) [1072, 4.2.1]
	energy release, corrosivity, and toxicity. radioactivity, pressure, and temperature. dispersion patterns, rapid release, and detonation. wind speed, barometric pressure, and time of day.
 49.	hich method of detecting the presence of hazardous materials ould pose the least risk for a first responder? (1091) [1072, 4.2.1]
	Referring to a preincident survey of the facility Doubtaining the shipping papers to identify a material Using sense of smell or touch to identify the material Entering the hazard area to use an air monitoring device

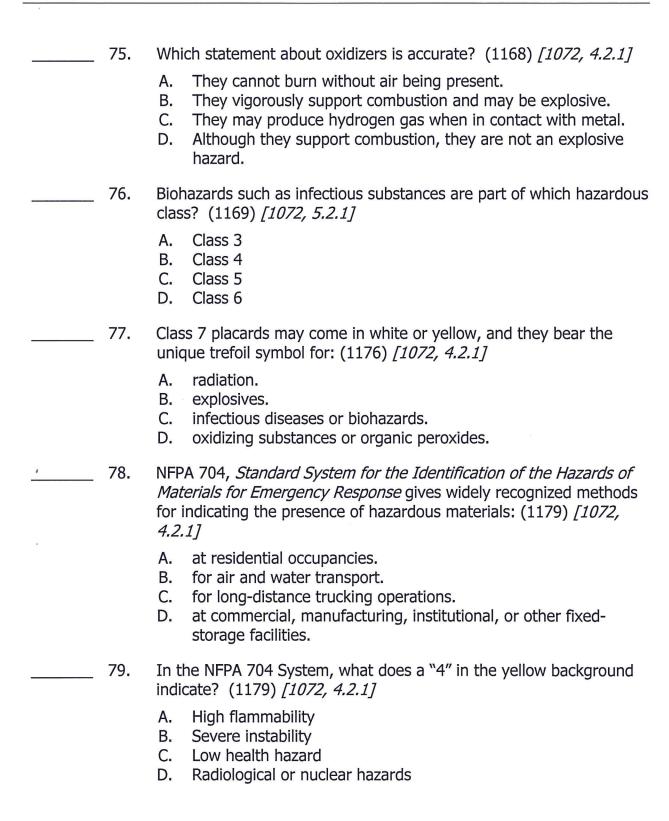


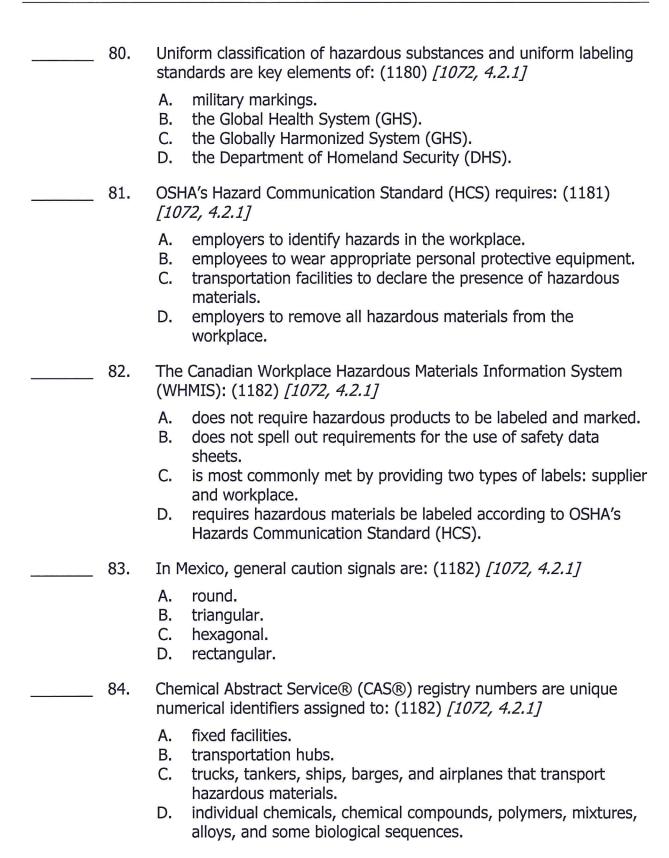
 55.	Which is considered to be a nonbulk container? (1097) [1072, 4.2.1 5.2.1]
	A. DrumB. RailcarC. Cargo tankD. Intermodal container
 56.	Pressure containers: (1106) [1072, 4.2.1, 5.2.1]
	 A. do not contain hazardous materials. B. can be recognized by their two flat ends. C. are constructed out of very flexible material. D. have the potential to release a great deal of energy if involved in an incident.
 57.	Liquid oxygen (LOX), nitrogen, helium, hydrogen, argon, and liquefied natural gas (LNG) are examples of: (1121) [1072, 4.2.1, 5.2.1]
	A. cryogens.B. corrosives.C. non-hazardous materials.D. weapons of mass destruction.
 58.	Liquid containers tend to have: (1127) [1072, 4.2.1, 5.2.1]
	A. open tops.B. pressure gauges.C. V-shaped sloping sides.D. flat (or less rounded) ends on tanks.
 59.	Small airborne particles of solid substances such as grain, flour, sugar, coal, metal, or sawdust: (1140) [1072, 4.2.1, 5.2.1]
	 A. can ignite or explode. B. do not present a hazard. C. may be stored in flexible bladders. D. have their own hazardous materials placard.

 60.	Materials with very little radioactivity that present no risk to the public should be shipped using what type of packaging? (1143) [1072, 4.2.1, 5.2.1]
	A. Type A B. Type B C. Type C D. Excepted
 61.	Which statement about pipelines is MOST accurate? (1146) [1072, 4.2.1, 5.2.1]
	 A. Pipeline markers always mark exact locations. B. Pipelines will run in a straight line between markers. C. Markers are rarely the best way to identify that pipelines are present.
	D. Pipeline companies must provide markers where pipelines cross under (or over) railroads or waterways.
 62.	Statistics on marine vessel oil spills show that most oil spills: (1147) [1072, 4.2.1, 5.2.1]
	A. are relatively small.B. are large major spills.C. occur in the open ocean.D. are due to animal collisions.
 63.	Which marine vessels may serve as floating warehouses with hazardous goods, vehicles, or rail cars inside? (1148) [1072, 4.2.1, 5.2.1]
	A. BargesB. Unit loading devicesC. Chemical carrier tankersD. Towing or pushing vessels
64.	What is a unit loading device? (1149) [1072, 4.2.1, 5.2.1]
	 A. A large railway cargo container B. A type of marine vessel cargo carrier C. A mechanized device to automatically load hazardous materials D. Containers and aircraft pallets used to consolidate air cargo into a single transportable unit



 70.	What is a 3.9 inch (100 mm) square-on-point diamond that identifies hazardous materials within packaging? (1156) [1072, 4.2.1]
	A. LabelB. PlacardC. MarkingD. Four-digit ID number
 71.	What is a descriptive name, identification number, weight, or specification that includes instructions, cautions, or U.N. marks, and is required on outer packaging of hazardous materials? (1156) [1072, 4.2.1]
	A. LabelB. PlacardC. MarkingD. Four-digit ID number
 72.	Which class of hazards is characterized by thermal and mechanical hazards in the form of blast pressure waves, shrapnel and fragmentation, and incendiary thermal effects? (1159-1160) [1072, 5.2.1]
	A. Class 1 B. Class 2 C. Class 3 D. Class 4
 73.	Most hazmat incidents, such as gasoline and diesel fuel spills, involve what hazard class? (1164) [1072, 5.2.1]
	A. Class 3 B. Class 4 C. Class 5 D. Class 6
 74.	In addition to burning, all flammable and combustible liquids exhibit varying degrees of: (1164) [1072, 4.2.1]
	A. toxicity.B. infectivity.C. corrosivity.D. fragmentation.

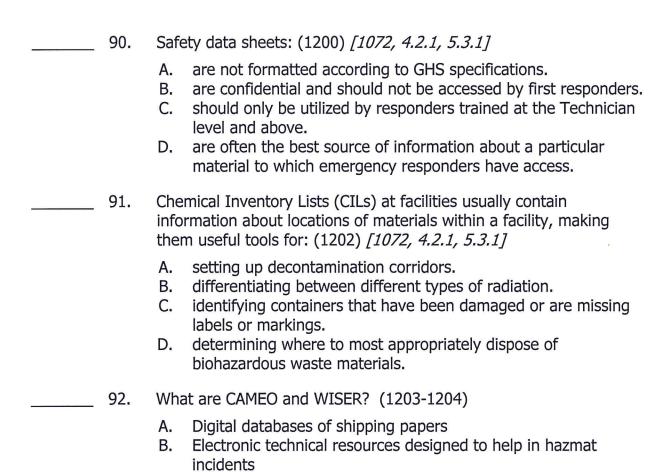




85.	In the U.S. and Canada, military markings are: (1182) [1072, 4.2.1]
	A. uniform.B. not necessarily uniform.C. identical to national systems.D. the same as the Globally Harmonized System (GHS).
 86.	Which is NOT included on pesticide labels in the U.S. and Canada? (1182-1188) [1072, 4.2.1]
	A. Signal wordB. Supplier identificationC. EPA/Canadian PCP numberD. U.N. four-digit identification number
 87.	Under ANSI Z535.1, what color means Warning? (1189) [1072, 4.2.1]
	A. Red B. Green C. Yellow D. Orange
 88.	The Emergency Response Guidebook (ERG): (1190) [1072, 4.2.1, 5.3.1]
	A. is designed primarily for use at fixed-facility locations.B. will be more specific and accurate than information on shipping papers.
	C. addresses all possible circumstances that may be associated with a hazardous response incident.
	D. provides guidance to personnel who may be first to arrive at a scene of a transportation incident involving hazmat.
 89.	Shipping papers must accompany: (1200) [1072, 4.2.1, 5.3.1]
	 A. any bill of lading or waybill. B. shipments of hazardous materials. C. hazardous materials at fixed facilities. D. permanent storage containers of hazardous waste.

C.

together



D. Digital reference sources for international standards on the transportation of chemical products

Forums for emergency responders and the public to work