PRACTICE EXAM 9: HAZMAT & TANKER SIMULATION (50 QUESTIONS)

HAZMAT SECTION (Questions 1–30)

1. A driver is loading Class 3 Flammable Liquid drums onto a trailer at a chemical distribution warehouse. The warehouse manager tells the driver to use the facility's standard steeltined forklift to load the drums. What concern should the driver raise about this loading method?

A. Steel forklifts are too heavy for the trailer floor and will exceed the trailer's deck weight rating during loading operations

B. Steel forklift tines can produce sparks on contact with metal drums or the trailer floor, creating an ignition risk near flammable liquid containers

C. Steel forklifts cannot be operated inside enclosed trailers because the exhaust fumes will contaminate the flammable liquid product

D. Steel forklifts are prohibited from lifting more than two drums simultaneously under OSHA forklift capacity regulations

2. A driver picks up a hazardous materials shipment and reviews the shipping papers. The entry reads: "Calcium hypochlorite, dry, 5.1, UN1748, PG II, 3,500 lbs." The driver recognizes this as a strong oxidizer commonly used as pool shock. What is the most important safety consideration for loading this material?

A. The material must be stored in a refrigerated trailer maintained below 40°F to prevent thermal decomposition during transport

B. The material may only be loaded by workers wearing full Level A hazmat suits with suppliedair breathing apparatus

C. The material must be loaded into sealed metal containers rather than the manufacturer's original packaging for highway transport

D. The oxidizer must be segregated from any flammable materials on the vehicle because contact between oxidizer and flammable materials can cause intense, difficulttoextinguish fires

3. A driver is parked at a truck stop with a placarded HazMat vehicle. A tow truck operator approaches and says he needs to tow the trailer to a nearby repair facility because the trailer's left rear brake chamber has been flagged as defective during a recent inspection. The driver is not present to drive the tractor. Can the tow truck operator move the placarded trailer?

A. The tow truck operator must hold a valid CDL with a HazMat endorsement to legally move any vehicle displaying hazardous materials placards

B. Any licensed tow truck operator may move a placarded trailer without a HazMat endorsement because towing is not considered "transportation"

C. The tow truck operator may move the trailer only if the placards are removed before towing begins and reapplied at the repair facility

D. The tow truck operator may move the trailer only if a DOT inspector provides written authorization for the specific tow movement

4. Under 49 CFR Part 172, which of the following correctly describes the requirement for marking packages of hazardous materials with the consignee's name and address?

A. The consignee's name and address must appear on every package regardless of carrier type, with no exceptions permitted

B. The consignee's name and address is required only on packages weighing more than 100 pounds to assist with delivery identification

C. The consignee's name and address must be marked on the package unless it is being transported by a private carrier transporting its own goods

D. The consignee's name and address is optional for all domestic highway shipments and is required only for international air and ocean transport

5. A driver is transporting a mixed load that includes 1,500 pounds of Class 3 Flammable Liquid and 200 pounds of Division 4.3 Dangerous When Wet material. What placards must be displayed?

A. Both FLAMMABLE and DANGEROUS WHEN WET placards on all four sides, because Class 3 exceeds the 1,001pound Table 2 threshold and Division 4.3 is Table 1 at any quantity

B. Only FLAMMABLE placards, because the Class 3 material has greater weight and Table 2 materials take priority over Table 1 when the Table 2 weight is higher

C. DANGEROUS placards only, because the vehicle carries materials from two different hazard classes and the combined weight exceeds 1,001 pounds

D. Only DANGEROUS WHEN WET placards, because Table 1 materials always supersede Table 2 placards when both are present on the same vehicle

6. A hazardous material is classified as Class 2, Division 2.2 NonFlammable Gas. A driver unfamiliar with this division asks a senior driver whether Division 2.2 materials are truly nonhazardous since they are labeled "nonflammable" and "nonpoisonous." What is the most accurate response?

A. Division 2.2 materials are completely safe and require no special handling precautions beyond those used for general freight

B. Division 2.2 materials are hazardous only when transported in quantities exceeding 10,000 pounds due to their cumulative weight

C. Division 2.2 materials are dangerous only when mixed with Division 2.1 Flammable Gas — they are inert when transported alone

D. Division 2.2 materials are stored under high pressure and can cause injuries from ruptured cylinders, asphyxiation in confined spaces, and frostbite from rapid gas expansion

7. A driver is involved in a HazMat incident and calls 911. The dispatcher asks what hazardous materials are on the vehicle. The driver cannot access the shipping papers because the cab is damaged. What alternative information can the driver provide to help emergency responders identify the materials?

A. The name of the shipper's company and the pickup location, which the dispatcher can use to contact the shipper's office

B. The placard information visible on the vehicle — the hazard class, symbol color, and any identification number displayed on the placards or orange panels

C. The vehicle's license plate number, which emergency responders can use to look up the cargo manifest in a national database

D. The driver's CDL number and endorsement type, which the dispatcher can crossreference with the FMCSA driver qualification file

8. A vehicle is loaded with 400 pounds each of three different Table 2 hazardous materials from three different hazard classes: Class 3, Class 8, and Division 5.1. The combined total is 1,200 pounds. What placarding is required?

A. All three classspecific placards must be displayed because carrying three different classes triggers individual placarding regardless of weight

B. No placards are required because no individual class reaches 1,001 pounds and the DANGEROUS placard requires only two classes

C. DANGEROUS placards on all four sides, because the combined aggregate of all Table 2 materials exceeds 1,001 pounds with no single class reaching that threshold

D. Only FLAMMABLE placards, because Class 3 is assigned the highest priority when three or more hazard classes are present

9. A driver at a fuel terminal is watching the loading process for a cargo tank being filled with gasoline through a toploading arm. The loading arm outlet is positioned above the liquid surface inside the tank, and the driver can see gasoline splashing as it falls freely through the air before hitting the liquid below. Why is this splash loading condition dangerous?

A. The freefalling liquid generates significant static electricity and produces large quantities of flammable vapor, creating dual ignition risks that proper submerged loading would eliminate

B. The splashing liquid creates pressure waves inside the tank that can damage the tank's internal baffles and weaken their mounting points

C. The impact of the falling liquid generates heat through friction with the air, raising the product temperature above its flash point

D. The splashing increases the product's viscosity through aeration, making it more difficult to pump out during delivery operations later

10. Under the hazardous materials regulations, which of the following materials requires the POISON INHALATION HAZARD placard rather than the standard POISON placard?

A. Any Division 6.1 material in Packing Group III that produces a detectable odor at concentrations above 100 parts per million

B. Any material classified as Class 8 Corrosive that generates visible fumes when its container is opened under normal conditions

C. Any Division 2.1 Flammable Gas that has been blended with an odorant additive to make gas leaks detectable by smell

D. Division 6.1 materials in Packing Group I with Inhalation Hazard Zone A or B, and Division 2.3 Poison Gas materials

11. A driver discovers during a pretrip inspection that the fire extinguisher mounted in the cab has a pressure gauge reading in the red zone, indicating it is discharged or undercharged. The driver's vehicle is loaded with placarded hazardous materials. What should the driver do?

A. Do not depart until the fire extinguisher is replaced or recharged — a placarded vehicle must carry a properly charged fire extinguisher rated for the types of fires that could involve the cargo

B. Depart as planned because fire extinguishers are supplementary safety equipment that are not legally required on placarded vehicles

C. Depart but drive directly to the nearest fire station to have the extinguisher recharged before continuing to the delivery destination

D. Remove the discharged extinguisher and drive without one because a discharged extinguisher could leak chemical agent and contaminate the cargo

12. A shipper offers a driver a load of hazardous materials. The packages are properly marked, labeled, and in good condition. However, the shipping papers list the total quantity of one material as "several drums" rather than providing a specific weight or count. Is this entry acceptable?

A. Yes, because the term "several" is a commonly accepted quantity descriptor in the commercial shipping industry

B. Yes, as long as the driver counts the drums during loading and writes the actual number on the shipping papers

C. No, the shipping papers must list the total quantity of each hazardous material using a specific measurement — weight, volume, or package count

D. No, but the driver may accept the shipment if the shipper provides a verbal estimate of the total weight over the phone

13. A driver is transporting Division 1.1 Explosives on an interstate highway. The vehicle's right front tire develops a slow leak, and the tire pressure monitoring system alerts the driver. The nearest exit is 5 miles away. What should the driver do?

A. Continue to the exit at reduced speed because a slow leak provides adequate time to reach a safer location for tire service

B. Pull over on the highway shoulder immediately and address the tire issue — continuing to drive on a compromised tire near explosives risks a tire failure that could be catastrophic

C. Increase speed to reach the exit faster, minimizing the total time driving on the leaking tire before it loses all pressure

D. Ignore the alert because tire pressure monitoring systems on commercial vehicles are notoriously inaccurate and unreliable

14. Under 49 CFR, what is the regulatory significance of the "+" (plus sign) symbol that appears in Column 1 of the Hazardous Materials Table next to certain material entries?

A. The "+" indicates the material is newly added to the table within the past calendar year and may be subject to updated regulations

B. The "+" indicates the material is eligible for a reduced shipping rate when transported by a carrier enrolled in the FMCSA safety partnership program

C. The "+" indicates the material qualifies for the limited quantity exception and may be shipped without placards at any weight

D. The "+" indicates that the proper shipping name, hazard class, and packing group are fixed by regulation and cannot be changed even if testing indicates different classification criteria

15. A driver transporting hazardous materials approaches a highway interchange. Two routes are available: Route A goes through a tunnel that is 1.2 miles long, and Route B adds 15 miles but remains on surface roads with no tunnels. No signs prohibit HazMat vehicles in the tunnel. Which route should the driver choose?

A. Route A, because the absence of prohibition signs means the tunnel is fully authorized for all hazardous materials vehicles

B. Route A is permissible if no restrictions are posted, but the driver should consider that Route B avoids the confined space of a tunnel, which presents heightened risks during a HazMat incident

C. Route B is mandatory because federal regulations prohibit all placarded vehicles from entering any tunnel longer than 0.5 miles

D. Route A, because the shorter route reduces the total time the hazardous materials are on the road, which is always the primary safety consideration

16. A driver transporting a load of Class 8 Corrosive liquid in drums notices during loading that one drum has a small amount of crystalline residue around its bung closure. The residue appears to be dried product. The drum does not appear to be actively leaking. Should the driver accept this drum?

A. The crystalline residue indicates a past or intermittent leak at the closure that could reopen during transport — the driver should refuse the drum until the shipper inspects and resolves the closure issue

B. Crystalline residue around a bung closure is normal for corrosive products and indicates that the closure is functioning as designed

C. The driver should clean the residue with a damp cloth and accept the drum because the residue itself is harmless once dried

D. The driver should accept the drum but load it on its side so that liquid pressure does not press against the suspect closure

17. Which of the following is a correct statement about the relationship between the HazMat endorsement and the Tanker endorsement when a driver is transporting hazardous liquids in a cargo tank?

A. The HazMat endorsement alone is sufficient for all hazardous liquids regardless of the container type or size

B. The Tanker endorsement alone is sufficient for all liquids in tank vehicles regardless of whether the liquid is hazardous

C. Both the HazMat endorsement (H) and the Tanker endorsement (N) are required — shown as the combined X endorsement — when transporting hazardous materials in a tank vehicle meeting the capacity thresholds

D. Neither endorsement is required for hazardous liquids when the tank capacity is below 5,000 gallons

18. A driver is involved in a highway accident while transporting placarded hazardous materials. No release of material occurs, but the accident causes $75,000 in property damage to other vehicles and roadway infrastructure. Must this incident be reported to the National Response Center?

A. No, because NRC notification is only required when hazardous material is actually released during the incident

B. No, because property damage must exceed $100,000 to trigger mandatory NRC notification for nonrelease incidents

C. Yes, but only if the property damage amount is confirmed by a law enforcement officer at the scene within one hour

D. Yes, because property damage exceeding $50,000 is one of the mandatory NRC notification triggers, even without a release of hazardous material

19. A driver completing a delivery of hazardous materials must obtain the signature of the receiving party on the delivery receipt. The receiving party is a junior employee who appears to be under 18 years of age. Should the driver be concerned about releasing the hazardous materials to this person?

A. No, because the age of the receiving party has no bearing on the driver's obligation to deliver hazardous materials to the address listed on the shipping papers

B. The driver should verify that the receiving party is authorized to accept hazardous materials at the facility — delivering to an unauthorized or unqualified person could compromise the chain of custody

C. Yes, because federal law prohibits any person under 21 from signing for or handling hazardous materials in any capacity

D. No, but the driver should photograph the junior employee's face for the carrier's security records before releasing the shipment

20. A vehicle is carrying a single package of Division 1.1 Explosives weighing 50 pounds. No other hazardous materials are on the vehicle. Is placarding required?

A. No, because 50 pounds is far below the 1,001pound Table 2 threshold and singlepackage shipments are generally exempt

B. No, because Division 1.1 at quantities below 100 pounds qualifies for the smallquantity exemption from placarding

C. Yes, because Division 1.1 is a Table 1 material that requires EXPLOSIVES 1.1 placards at any quantity, including a single 50pound package

D. Yes, but only DANGEROUS placards rather than EXPLOSIVES 1.1 placards, because the quantity is below the threshold for classspecific placarding

21. A HazMat driver is making a multistop delivery route. After completing the third delivery, the driver realizes that the shipping papers were not updated to remove the delivered material entries. The papers still show all original materials including those already delivered. Is this a problem?

A. No, because shipping papers should always reflect the original shipment as loaded, not the current cargo status during multistop deliveries

B. No, as long as the driver can verbally explain to any inspector which materials have been delivered and which remain on the vehicle

C. Yes, but only if one of the delivered materials was a Table 1 material that could trigger unnecessary emergency response if responders consult the outdated papers

D. Yes, because the shipping papers should accurately reflect what is currently on the vehicle — outdated papers can mislead emergency responders about the actual hazards present

22. A shipper hands a driver shipping papers for a load of hazardous materials. The driver notices that the emergency response telephone number listed is an 800 number followed by the notation "(MondayFriday, 9 AM5 PM EST)." What is wrong with this number?

A. Nothing is wrong — the regulations only require the number to be operational during standard business hours

B. The number must provide 24hour, 7dayaweek coverage — a businesshoursonly number does not satisfy the regulatory requirement

C. The number must be a local number rather than a tollfree number to ensure connectivity in all geographic areas

D. The notation about hours of operation is acceptable but must also include the shipper's afterhours cell phone number as a backup

23. A driver is transporting hazardous materials when a severe hailstorm begins. Large hail is striking the vehicle. The driver is concerned about damage to the placards. What should the driver do?

A. Remove the placards and store them inside the cab to protect them from hail damage, then reapply them after the storm passes

B. Continue driving because placards are designed to withstand normal weather conditions including hail, rain, and wind

C. Pull over when safe to do so, and after the storm passes, inspect all four placards for damage — replace any that are illegible or structurally compromised

D. Activate the vehicle's hazard flashers as a substitute for the placards in case the hail damages them during the storm

24. A driver is transporting Class 3 Flammable Liquid in a dry van trailer. During an enroute stop, the driver opens the trailer doors and discovers that several packages have fallen from the stack and are scattered across the trailer floor. None appear to be leaking. What should the driver do before restacking and securing the fallen packages?

A. Inspect each fallen package carefully for dents, cracks, punctures, or other damage that could compromise the container's integrity before reloading and securing them

B. Restack the packages immediately without inspection to minimize the time the trailer doors are open and the cargo is exposed to the weather

C. Leave the fallen packages on the trailer floor and continue to the destination, because restacking cargo during transport is prohibited by regulation

D. Remove all fallen packages from the trailer and leave them at the truck stop for the shipper to collect, then continue with the remaining secured cargo

25. Under the Hazardous Materials Regulations, which of the following actions is the driver — rather than the shipper or carrier — personally and primarily responsible for?

A. Determining the proper shipping name and hazard class of each material being transported on the vehicle

B. Selecting the packaging specifications and packing group for each hazardous material offered for transport

C. Affixing the correct hazard warning labels to each individual package before it is loaded onto the vehicle

D. Ensuring that shipping papers are accessible at all times — within immediate reach while driving and in the door pouch or on the seat when away from the vehicle

26. A driver is hauling a placarded load on a highway when traffic ahead comes to a sudden complete stop due to a multivehicle accident. The driver successfully stops the vehicle in time. While waiting in stopped traffic, the driver notices smoke rising from a vehicle fire approximately 400 feet ahead. What should the driver consider?

A. The 400foot distance exceeds the 300foot minimum, so the driver should remain in position and wait for traffic to clear

B. The driver should consider whether the fire might spread or produce windborne heat and embers that could reach the HazMat vehicle — if there is any risk, the driver should attempt to create additional distance by backing up or moving to an alternate position

C. The driver should leave the vehicle and walk to the accident scene to offer assistance with traffic control until emergency services arrive

D. The driver should accelerate through the gap on the highway shoulder to pass the fire zone and continue the trip without stopping

27. A driver is assigned a load of hazardous materials that includes both Class 3 Flammable Liquid and Class 7 Radioactive material. What specific loading consideration applies to the radioactive material that does not apply to the flammable liquid?

A. The radioactive material must be separated from the driver's cab by distances determined by its transport index, to limit the driver's radiation exposure during the trip

B. The radioactive material must be loaded last so that it is the first material unloaded at the delivery destination

C. The radioactive material must be wrapped in leadlined blankets provided by the shipper before it can be placed in the same trailer as the flammable liquid

D. The radioactive material must be placed in a separate locked compartment accessible only to the driver and cannot share open cargo space with any other material

28. A HazMat driver is involved in an incident where a drum of Class 8 Corrosive material falls from the trailer during unloading and shatters on the concrete loading dock. The corrosive liquid splashes onto the driver's arms and face. After the initial emergency response, what medical consideration is important?

A. The driver should wait 24 hours before seeking medical attention because corrosive burns develop slowly and may not be apparent immediately

B. The driver should apply petroleum jelly to the affected skin areas to seal the corrosive liquid against the skin and prevent further absorption

C. The driver should seek immediate medical attention and inform medical personnel of the specific corrosive material involved, using information from the shipping papers or Safety Data Sheet

D. The driver should neutralize the corrosive on the skin by applying the opposite chemical — vinegar for base burns, baking soda for acid burns

29. A driver transporting a load of hazardous materials stops at a rest area and leaves the vehicle to use the facilities. Upon returning, the driver discovers that someone has removed one of the four placards from the vehicle. The placard is not on the ground nearby and appears to have been stolen. What must the driver do?

A. Drive to the nearest police station to report the theft, then continue to the destination with three remaining placards

B. Call the carrier and request a replacement placard be delivered to the rest area before the driver continues the trip

C. Continue driving with three placards because the theft was beyond the driver's control and the three remaining placards provide adequate warning

D. Replace the stolen placard before resuming transport — the driver must carry spare placards or arrange for a replacement, because all four are required

30. A driver is preparing to transport Division 6.2 Infectious Substances. This is the driver's first time hauling this hazard class. What unique characteristic of Division 6.2 materials distinguishes them from other hazard classes?

A. Division 6.2 materials contain pathogens — bacteria, viruses, parasites, fungi, or prions — that can cause disease in humans or animals, requiring specialized packaging to prevent container breach and exposure

B. Division 6.2 materials are the only hazard class that does not require any form of placarding, labeling, or shipping paper documentation

C. Division 6.2 materials are always transported in refrigerated trailers maintained at exactly 32°F to prevent pathogen replication

D. Division 6.2 materials are classified based on their radioactivity levels rather than their biological properties

TANKER SECTION (Questions 31–50)

31. A tank vehicle driver is hauling a full load of liquid in a baffled tank. The driver approaches a sharp curve and reduces speed to 15 mph below the posted advisory speed before entering the curve. Halfway through the curve, the driver feels the vehicle leaning but remaining stable. Should the driver feel confident about the current speed?

A. Yes, because being 15 mph below advisory with a full baffled tank and maintaining stability halfway through the curve indicates the speed is appropriate

B. No, because the advisory speed is meaningless for tank vehicles and the driver should always stop completely before any curve

C. The driver should be reasonably confident but maintain awareness — conditions can change throughout the curve, and the driver should be prepared to further reduce speed if the lean increases

D. Yes, because a full tank produces no surge and therefore presents zero rollover risk regardless of cornering speed

32. A driver operating an empty (cleaned and purged) DOT 406 cargo tank on a windy day notices the vehicle being pushed laterally by strong crosswinds. Compared to the same vehicle when fully loaded, why is the empty tank more susceptible to crosswind effects?

A. The empty tank retains its large surface area but has lost most of its weight, resulting in less tire traction to resist lateral wind forces and a high center of gravity relative to overall mass

B. The empty tank's internal pressure drops below atmospheric when empty, creating a partial vacuum that makes the shell more flexible and susceptible to wind deformation

C. The empty tank generates aerodynamic lift on its curved upper surface during crosswinds, similar to an aircraft wing, reducing ground contact force

D. The cleaning chemicals used to purge the tank have weakened the structural bonds in the shell, making it physically weaker against lateral forces

33. A tank vehicle is loaded with 8,000 gallons of a liquid product at a temperature of 65°F. The product has a thermal expansion coefficient of approximately 0.07% per degree Fahrenheit. If the product temperature increases to 95°F during transport (a 30°F rise), approximately how many additional gallons of space does the expanding liquid require?

A. Approximately 1 gallon, which is negligible and does not require any outage consideration during loading

B. Approximately 8 gallons, which can be absorbed by the flexibility of the tank shell without any outage

C. Approximately 1,200 gallons, requiring the tank to be loaded to no more than 85% capacity under all conditions

D. Approximately 168 gallons (8,000 × 0.0007 × 30 = 168), which must be accommodated by the outage space left during loading

34. A driver operating a loaded smooth bore tank vehicle needs to stop at a traffic light on a downhill grade. As the driver applies the brakes, the forward surge is more pronounced than usual. Why is the downhill grade amplifying the surge effect?

A. The downhill grade causes the tank shell to flex downward at the front, reducing the internal volume and compressing the liquid forward

B. Gravity adds to the liquid's forward momentum on a downhill grade, so the combination of braking deceleration and gravitational pull creates a more forceful forward surge than on a level surface

C. The air brake system loses efficiency on downgrades because the compressed air becomes heated and expands, reducing braking pressure

D. The smooth bore tank's lack of baffles allows the liquid to accelerate to a higher speed than the vehicle on the downgrade

35. A cargo tank equipped with compartments has a total capacity of 9,000 gallons divided into three 3,000gallon compartments. The driver is instructed to load only compartment 2 (center) with 3,000 gallons and leave compartments 1 (front) and 3 (rear) empty. What handling concern does this create?

A. All the weight is concentrated in the center of the trailer, potentially overloading the center axle group while underloading the front and rear axle groups, and the empty end compartments contribute nothing to stability

B. The center compartment will overheat because the empty end compartments no longer provide thermal buffering

C. The product in the center compartment will generate excessive internal pressure because the empty compartments create an insulating air gap

D. Loading only the center compartment is the ideal configuration because it centers the weight perfectly over the trailer's main structural support

36. A tank vehicle driver is delivering heating oil to a residential customer. The customer's 275gallon basement oil tank has a fill pipe extending from the basement through the foundation wall to the outside of the house. The driver connects the delivery hose to the fill pipe. What must the driver monitor during the delivery to prevent overfilling the customer's tank?

A. The driver should listen for the customer to shout from inside the basement when the tank gauge shows it is nearly full

B. The driver should deliver a predetermined number of gallons based on the customer's order and stop pumping at that volume

C. The driver should monitor the fill pipe's whistle vent or sight gauge, which provides audible or visual indication of the rising liquid level inside the customer's tank

D. The driver should estimate the tank's remaining capacity by tapping on the outside of the fill pipe and listening for changes in pitch

37. A driver operating a partially loaded tank vehicle (approximately 45% full) is traveling on a straight, level highway at 55 mph. The driver sees a construction work zone ahead with a reduced speed limit of 35 mph. How far in advance should the driver begin reducing speed compared to a conventional dry van at the same weight?

A. The same distance as a dry van, because the straight, level road eliminates any surgerelated advantages or disadvantages

B. Earlier than a dry van, because the partially loaded tank produces significant surge during deceleration, extending the total distance needed to slow from 55 to 35 mph

C. Later than a dry van, because the reduced weight of the partial load provides shorter stopping distances at any given speed

D. The distance is identical because modern ABS systems compensate for all surge effects during controlled deceleration events

38. A driver operating a loaded MC 331 propane tank notices that the tank's pressure gauge reads 180 psi. The specification plate shows the MAWP as 250 psi. The ambient temperature is 85°F. Should the driver be concerned about the pressure reading?

A. Yes, because any pressure reading above 100 psi indicates an imminent catastrophic failure requiring emergency evacuation

B. Yes, because a reading of 180 psi exceeds the maximum pressure allowed for highway transport of propane regardless of MAWP

C. No, because a propane tank that is properly loaded and operating normally will show pressure readings that increase with ambient temperature, and 180 psi is well within the 250 psi MAWP

D. A reading of 180 psi at 85°F is abnormally high and indicates a possible overfill condition that requires immediate investigation

39. A tank vehicle driver is backing into a tight delivery bay at a commercial fueling facility. The tank is approximately 80% full. What surge effect should the driver anticipate during the repeated stopstartreverse maneuvers typical of a tight backing operation?

A. The liquid will surge forward each time the driver brakes during the backing maneuver and backward each time the driver releases the brakes and reverses, creating rocking that must be managed with gentle, gradual inputs

B. No surge occurs during backing because the transmission's reverse gear mechanically locks the liquid in place inside the tank

C. Surge during lowspeed backing is too weak to produce any noticeable effect on vehicle handling and can be ignored

D. The liquid will surge exclusively sidetoside during backing because the vehicle's lateral movement during steering generates lateral forces

40. A driver is operating a loaded tank vehicle when a warning light on the dashboard indicates low air pressure in the brake system. The air pressure gauge confirms that pressure is dropping below the normal operating range. What is the most critical concern specific to a tank vehicle in this situation?

A. The low air pressure will cause the tank's pressure relief valves to activate, venting cargo product into the atmosphere

B. The low air pressure indicates that the cargo tank is developing an internal vacuum that could cause the shell to collapse inward

C. If the brakes lose effectiveness due to insufficient air pressure, the liquid surge during attempted braking will push the loaded vehicle forward uncontrollably, making it nearly impossible to stop

D. The low air pressure will cause the tank's internal shutoff valves to open spontaneously, releasing product through the discharge piping

41. A driver is performing a pretrip inspection on a cargo tank and discovers that the gasket on one of the vapor recovery valves is cracked and appears to be leaking a small amount of vapor. The tank carries gasoline. What should the driver do?

A. Continue with the trip because vapor recovery valves are environmental equipment with no safety function during transport

B. Report the leaking vapor recovery valve gasket to the carrier and have it repaired before operating the vehicle, because a leaking valve near a gasoline tank allows flammable vapor to escape

C. Wrap the valve with plastic wrap to contain the vapor leak until the vehicle reaches the next maintenance facility

D. Open the vapor recovery valve fully to equalize pressure and prevent the cracked gasket from being stressed during transport

42. A tank vehicle driver is unloading diesel fuel at a gas station. During the delivery, the fire department responds to a fire alarm at a building across the street. Fire trucks are arriving and firefighters are deploying equipment approximately 200 feet from the driver's vehicle. What should the driver do?

A. Continue the unloading operation because the fire is across the street and 200 feet away, which exceeds the minimum clearance for most delivery operations

B. Increase the unloading flow rate to complete the delivery faster before the fire situation escalates or fire department operations interfere

C. Request that the fire department reposition their equipment farther from the fuel delivery operation before continuing

D. Stop the unloading operation, close all valves, disconnect hoses, and secure the vehicle — a fire 200 feet away is within the 300foot prohibition zone, and the situation could escalate unpredictably

43. A tank vehicle driver arrives at a delivery site and discovers that the customer's receiving tank has been modified with a homemade fill pipe extension made from PVC pipe. The original steel fill pipe has been replaced. What concern should the driver have about this modification?

A. PVC pipe is not rated for fuel transfer — it can crack, is not grounded, and cannot be properly bonded to prevent static discharge during flammable liquid delivery

B. PVC pipe is an acceptable substitute for steel fill pipe as long as it is the same diameter and properly glued at all joints

C. The modification is the customer's property and the driver has no authority or obligation to evaluate the condition of the receiving equipment

D. PVC pipe is actually safer than steel because it eliminates the risk of sparks from metaltometal contact during hose connection

44. A loaded tank vehicle is traveling at highway speed when the driver experiences a sudden complete loss of engine power. The engine shuts off completely while the vehicle is in motion. In addition to the obvious concern about losing forward propulsion, what specific system is affected by the loss of engine power on an airbrakeequipped tank vehicle?

A. The headlights will immediately go dark, leaving the driver unable to see the road ahead during nighttime operations

B. The power steering system will become inoperative, making the steering wheel extremely difficult to turn at any speed

C. The air compressor stops running, meaning the air brake system will gradually lose pressure with each brake application — the driver has a limited number of brake applications before brake pressure is depleted

D. The fuel system will begin leaking diesel onto the road surface because the enginedriven fuel pump can no longer maintain suction on the fuel lines

45. A driver operating a loaded tank vehicle in summer temperatures notices that the pressurevacuum vent on the manhole cover is releasing vapor intermittently — puffing out small amounts of vapor every few minutes. The tank carries a volatile flammable liquid. Is this behavior normal?

A. No, any vapor release from a pressurevacuum vent indicates a catastrophic failure of the vent mechanism that requires immediate shutdown

B. Yes, as the liquid warms from ambient heat, it produces vapor that gradually increases headspace pressure — the pressurevacuum vent releases small amounts of this vapor to prevent overpressure, which is its designed function

C. No, the vent should remain completely sealed at all times during transport and any release indicates a gasket failure

D. Yes, but only during the first 30 minutes of transport — continued venting after 30 minutes indicates abnormal pressure buildup

46. A tank vehicle driver is operating a loaded vehicle on a highway when a front tire develops a slow leak. The tire pressure is decreasing but the tire is not yet flat. What is the safest response?

A. Continue driving at reduced speed to the next exit or truck stop, monitoring the tire pressure gauge for further decline

B. Increase speed to reach the nearest service facility before the tire goes completely flat and becomes undriveable

C. Stop immediately in the travel lane, activate hazard flashers, and wait for roadside assistance to arrive with a replacement tire

D. Gradually reduce speed and carefully move to the shoulder or the nearest safe pulloff area to address the tire before it fails completely — a flat tire on a loaded tank vehicle can cause loss of directional control

47. A driver is loading a cargo tank with a product that the loading facility operator describes as "mildly toxic." The driver asks what PPE is recommended during the loading operation. The operator says no PPE is necessary for mildly toxic materials. What should the driver do?

A. Consult the Safety Data Sheet or the carrier's operational guidelines for the specific product to determine the appropriate PPE — the loading operator's informal assessment should not override documented safety requirements

B. Accept the operator's assessment because loading facility personnel are always the most knowledgeable about the products they handle

C. Refuse to load the product entirely because any degree of toxicity prohibits highway transport under current federal regulations

D. Load the product wearing only standard work gloves because gloves provide adequate protection against any material described as "mildly toxic"

48. A tank vehicle equipped with a smooth bore tank is traveling through an Scurve — a road section with a left curve immediately followed by a right curve. The driver enters the left curve at an appropriate reduced speed. What specific handling challenge does the transition from the left curve to the right curve create?

A. The engine must be shifted to a lower gear between the two curves to maintain adequate power through the direction change

B. The tires on the inside of the first curve will overheat during the transition, temporarily reducing traction for the second curve

C. The liquid that surged to the right during the left curve must now reverse direction and surge to the left for the right curve — the transition creates a momentary doublesurge effect that amplifies rocking

D. The trailer's kingpin experiences maximum stress during Scurve transitions, creating a risk of fifthwheel separation

49. A tank vehicle driver completes a delivery and the cargo tank is now empty. The driver needs to return to the terminal, a trip of approximately 100 miles on interstate highways. The empty tank was carrying a nonhazardous liquid (water). What driving considerations change for the empty return trip?

A. No driving adjustments are needed because the empty tank presents no handling challenges compared to the loaded condition

B. The driver should be aware that the empty vehicle is more susceptible to crosswinds, has a lighter feel with less traction, and may bounce or sway more on rough roads — moderate speed reduction and increased alertness are appropriate

C. The driver should increase speed on the return trip because the lighter vehicle has better acceleration and shorter stopping distances

D. The driver must stop at every rest area and weigh station on the return trip because empty tank vehicles are subject to enhanced inspection requirements

50. A tank vehicle driver has been driving the same route for several years, delivering fuel to the same customers every week. The driver has become very familiar with the route, the curves, the hills, and the delivery sites. What risk does this familiarity create?

A. Experienced drivers are immune to complacency because their familiarity with the route actually reduces all risks to zero

B. Familiarity reduces the driver's insurance premium, so there is no downside to operating on familiar routes for extended periods

C. Route familiarity has no effect on driver behavior or safety outcomes according to transportation safety research

D. Complacency — the driver may begin taking curves at higher speeds, reducing following distances, or skipping pretrip inspection items because "nothing ever goes wrong on this route," increasing the risk of an accident

Practice Exam 9: Answer Key and Explanations

1. B — Standard steeltined forklifts can produce sparks when metal tines strike metal drums, trailer floors, or dock plates. Near Class 3 Flammable Liquid containers, any spark is a potential ignition source for flammable vapors. Forklifts used in areas where flammable vapors may be present should be rated for use in flammable atmospheres or be nonsparking equipment.

2. D — Calcium hypochlorite is a Division 5.1 Oxidizer that supplies oxygen and dramatically intensifies the combustion of organic materials. If loaded adjacent to flammable materials and both containers fail, the oxidizer accelerates the fire to extreme intensity. The driver must ensure proper segregation between the oxidizer and any flammable materials on the vehicle.

3. A — Operating any vehicle displaying hazardous materials placards — including towing it — requires the operator to hold a valid CDL with a HazMat endorsement. The placarded

vehicle is transporting hazardous materials regardless of whether it is being driven under its own power or towed by another vehicle. The tow truck operator must be properly endorsed.

4. C — The consignee's name and address must be marked on each package of hazardous materials, with one exception: packages transported by a private carrier (a company transporting its own goods in its own vehicles) are exempt from this requirement. For all other transportation — common carriers, contract carriers — the consignee marking is mandatory.

5. A — Division 4.3 Dangerous When Wet is a Table 1 material requiring DANGEROUS WHEN WET placards at any quantity, including the 200 pounds on board. Class 3 Flammable Liquid at 1,500 pounds exceeds the 1,001pound Table 2 threshold, requiring FLAMMABLE placards. Both materials independently trigger their respective placarding requirements, so both must be displayed on all four sides.

6. D — Division 2.2 NonFlammable, NonPoisonous Compressed Gases are genuinely hazardous despite being neither flammable nor toxic. They are stored under high pressure, and a ruptured cylinder can become a lethal projectile. Released in confined spaces, they can displace oxygen and cause asphyxiation. Rapid gas expansion produces extreme cold that can cause severe frostbite on contact.

7. B — When shipping papers are inaccessible, the placards visible on the vehicle provide the next best identification for emergency responders. The driver should report the placard color, symbol, hazard class number, and any fourdigit identification number displayed on the placards or orange panels. This information allows responders to look up the material in the ERG and initiate appropriate response actions.

8. C — No single Table 2 hazard class reaches the 1,001pound threshold independently (400 pounds each). However, the combined aggregate of all Table 2 materials is 1,200 pounds, which exceeds 1,001 pounds. DANGEROUS placards may be used when two or more Table 2 classes are present and the combined total meets the threshold. The DANGEROUS placard works with any number of Table 2 classes, not just two.

9. A — Splash loading — where liquid falls freely through air before hitting the liquid surface — generates significant static electricity through charge separation as the liquid breaks apart and recombines during the fall. It also produces large quantities of flammable vapor from the turbulence. Submerged loading eliminates both hazards by introducing the product below the liquid surface from the start.

10. D — The POISON INHALATION HAZARD placard is required specifically for Division 6.1 materials in Packing Group I with Inhalation Hazard Zone A or B, and for Division 2.3 Poison Gas materials. These are Table 1 materials requiring this specific placard at any quantity. Standard Division 6.1 materials in lower packing groups use the regular POISON placard instead.

11. A — A placarded vehicle must carry at least one properly charged fire extinguisher with a minimum rating of 10 B:C. A discharged or undercharged extinguisher does not meet this requirement. The driver must not depart until the extinguisher is replaced or recharged, because a fire involving the hazardous cargo could escalate rapidly without an immediately available suppression tool.

12. C — Shipping papers must list the total quantity of each hazardous material using a specific, measurable unit — weight (pounds or kilograms), volume (gallons or liters), or package count (number of drums, cylinders, etc.). Vague descriptors like "several drums" do not satisfy the regulatory requirement for specific quantity identification.

13. B — A tire developing a leak while transporting Division 1.1 Explosives requires immediate attention. Continuing to drive on a compromised tire risks a blowout, which could cause loss of vehicle control or a tire fire near the explosives. The driver should pull over on the shoulder immediately, set out reflective triangles (never flares near explosives), and address the tire issue before continuing.

14. D — The "+" symbol in Column 1 of the Hazardous Materials Table indicates that the proper shipping name, hazard class, and packing group for that entry are fixed by regulation. Even if laboratory testing of the specific material suggests it might qualify for a different classification, the regulatory designation cannot be changed. The "+" locks the classification as listed.

15. B — While no posted prohibition means the tunnel is not officially restricted for HazMat vehicles, the driver should exercise professional judgment. Tunnels present confinedspace hazards that amplify the consequences of any HazMat release — limited ventilation, restricted evacuation, and difficulty for responders to access the scene. The surface route is a safer alternative worth the additional distance.

16. A — Crystalline residue around a drum closure indicates that product has seeped past the seal at some point, dried on the exterior surface, and left a visible deposit. This evidence of a past or intermittent leak means the closure may not maintain a reliable seal during the vibration, temperature changes, and pressure variations encountered during highway transport. The driver should refuse the drum.

17. C — Transporting hazardous materials in a tank vehicle meeting the Tanker capacity thresholds requires both endorsements — the HazMat (H) for the hazardous cargo and the Tanker (N) for the tank vehicle. These combine as the X endorsement on the CDL. Neither endorsement alone is sufficient when both conditions are present simultaneously.

18. D — Property damage exceeding $50,000 is one of the mandatory triggers for immediate notification to the National Response Center, even when no hazardous material is actually released. At $75,000 in property damage, this incident meets the threshold. Other NRC triggers include death, hospitalization, public evacuation lasting one hour or more, and major transportation artery closure for one hour or more.

19. B — The driver should verify that the person receiving the hazardous materials is authorized to accept them at the facility. Delivering regulated materials to an unauthorized or unqualified individual could compromise the chain of custody and create liability issues. While there is no universal age requirement for receivers, the driver should ensure proper authorization before releasing the shipment.

20. C — Division 1.1 is a Table 1 material that requires EXPLOSIVES 1.1 placards at any quantity — there is no minimum weight threshold. A single 50pound package triggers the full placarding requirement because Division 1.1 materials have a mass explosion hazard, and even small quantities can produce catastrophic destruction if initiated.

21. D — Shipping papers should accurately reflect the hazardous materials currently on the vehicle. If materials have been delivered and removed, the papers should be updated to show only what remains. Outdated papers that list materials no longer on board can mislead emergency responders into preparing for hazards that are not present, wasting critical response time and resources.

22. B — The emergency response telephone number must provide 24hour, 7dayaweek coverage by a person knowledgeable about the material or with immediate access to such a person. A number that operates only during business hours does not satisfy this requirement because HazMat incidents can occur at any time. The driver should refuse the shipment until the shipper provides a compliant 24/7 number.

23. C — Placards should not be removed during a storm because the vehicle still requires them for hazard communication. After the storm passes, the driver should inspect all four placards for hail damage — cracks, dents, fading, or illegibility. Any placard that is structurally compromised or no longer legible must be replaced before the driver continues the trip.

24. A — Before restacking fallen packages, each one must be carefully inspected for dents, cracks, punctures, or other damage that could compromise the container's integrity. A package that appears intact on the outside may have internal damage — a cracked liner, a weakened seam, or a loosened closure — that could lead to a leak during the remainder of the trip.

25. D — The driver is personally and primarily responsible for ensuring that shipping papers are accessible at all times — within immediate reach while driving, and in the driver's door pouch or on the driver's seat when away from the vehicle. The shipper prepares the papers, but once the driver accepts them, maintaining their accessibility becomes the driver's direct obligation.

26. B — While 400 feet currently exceeds the 300foot minimum clearance from an open fire, fires are dynamic situations that can spread rapidly. Windborne embers, radiant heat, and secondary fires from the multivehicle accident could bring the fire closer to the HazMat vehicle. The driver should evaluate the situation and attempt to create additional distance if there is any risk of the fire reaching the vehicle.

27. A — Radioactive material packages must be separated from the driver's cab and any occupied space by distances determined by the total transport index of the shipment. This separation requirement limits the driver's cumulative radiation exposure during the trip. Flammable liquids have no equivalent distancebased separation requirement from occupied spaces.

28. C — Corrosive material splashed on skin causes chemical burns that can worsen rapidly with continued contact. The driver should seek immediate medical attention and provide medical personnel with specific information about the corrosive material — proper shipping name, concentration, and any available Safety Data Sheet data — so that appropriate treatment can be initiated without delay.

29. D — All four placards must be present, correct, and legible at all times during transport. A stolen placard must be replaced before the driver continues, regardless of the circumstances of its removal. The driver should carry spare placards or arrange for a replacement through the

carrier. Driving with three placards is a violation that will be cited during any roadside inspection.

30. A — Division 6.2 Infectious Substances are unique because they contain diseasecausing agents — bacteria, viruses, parasites, fungi, or prions — rather than chemical hazards. Their danger lies in biological infection rather than toxicity, flammability, or corrosivity. They require specialized packaging designed to prevent container breach and human exposure during all phases of transport.

31. C — The driver should be reasonably confident given the 15 mph reduction, full load (minimal surge room), baffled tank, and stable vehicle behavior. However, conditions can change throughout a curve — road surface quality, banking angle, and wind gusts can vary. The driver should maintain awareness and be prepared to further reduce speed if the lean increases or conditions change in the second half of the curve.

32. A — An empty tank retains its large cylindrical surface area (acting as a sail in crosswinds) but has lost nearly all of its cargo weight. The reduced weight means less tire traction to resist the lateral force of the wind, and the high center of gravity relative to overall mass makes the vehicle more susceptible to tipping. Empty tank vehicles require speed reduction and heightened awareness in windy conditions.

33. D — The calculation is: 8,000 gallons × 0.0007 (0.07% per °F) × 30°F rise = 168 gallons of expansion. This means the outage space in the tank must be at least 168 gallons to accommodate the thermal expansion without overpressurizing. If the tank was loaded with less than 168 gallons of outage, the expanding liquid could exceed the available space and create dangerous internal pressure.

34. B — On a downhill grade, gravity pulls the liquid forward in addition to the decelerationinduced momentum. When the driver brakes, the liquid is being pushed forward by both its own inertia (from the deceleration) and by gravity (from the downhill slope). This double contribution creates a more forceful forward surge than the same braking event on a level surface.

35. A — Loading only the center compartment concentrates all the weight in the middle of the trailer, which may overload the axle group directly beneath the loaded compartment while leaving the front and rear axle groups underloaded. The empty front and rear compartments contribute nothing to overall stability, and the concentrated center weight creates an unusual handling dynamic that may produce unpredictable vehicle behavior.

36. C — For residential heating oil tanks, the fill pipe typically includes a whistle vent or alarm gauge that provides an audible signal (a whistling sound that stops when the tank is nearly full) or a visual indication of the rising liquid level. The driver must monitor this indicator throughout the delivery to stop pumping before the tank overflows. Overfilling a basement oil tank causes a hazardous spill inside the customer's home.

37. B — A partially loaded tank at 45% capacity produces significant forward surge during deceleration because the liquid has extensive room to build momentum. The driver must begin reducing speed earlier than a dry van driver would at the same weight, applying the brakes gradually over a longer distance to decelerate both the vehicle and the liquid progressively without triggering a violent surge.

38. D — Propane's vapor pressure increases with temperature, so higher ambient temperatures naturally produce higher gauge readings in an MC 331 tank. At 85°F, a pressure reading of 180 psi is within the normal operating range for a properly loaded propane tank and is well below the 250 psi MAWP. The reading would only be concerning if it approached or exceeded the MAWP or rose without a corresponding temperature increase.

39. A — During backing maneuvers, each brake application causes the liquid to surge forward, and each release followed by reverse acceleration causes it to surge backward. At 80% capacity, the liquid has moderate room to move, and the repeated stopstart pattern creates a rocking motion. The driver should use gentle, gradual brake inputs and smooth acceleration to minimize the amplitude of these oscillations.

40. C — On an airbrakeequipped tank vehicle, low air pressure means the brakes have reduced stopping force. In a tank vehicle, this is compounded by liquid surge — if the brakes cannot hold firmly against the forward surge force, the heavy liquid mass will push the loaded vehicle forward uncontrollably. The driver should stop the vehicle immediately while enough air pressure remains for effective braking.

41. B — A cracked gasket on a vapor recovery valve allows flammable vapor to escape from the tank during transport. On a gasoline tank, this escaping vapor represents a fire and explosion hazard. The driver should report the leaking gasket to the carrier and have it repaired before operating the vehicle. Even small vapor leaks near flammable liquid tanks create a persistent ignition risk.

42. D — A fire 200 feet away is within the 300foot minimum clearance zone required for placarded vehicles. The driver must stop the unloading operation, close all valves, disconnect hoses, and secure the vehicle. Fire situations are dynamic and can escalate unpredictably — heat, sparks, or embers could reach the fuel delivery area, and the fire department's operations could interact with the delivery.

43. A — PVC pipe is not approved for fuel transfer applications. It is not electrically conductive, so it cannot be grounded or bonded to prevent static electricity discharge during flammable liquid delivery. PVC is also brittle, susceptible to cracking, and not chemically compatible with many petroleum products. Delivering fuel through a PVC fill pipe creates significant static ignition and structural failure risks.

44. C — When the engine stops, the air compressor stops running. The air brake system has a reservoir of stored air pressure, but each brake application uses some of that stored air. Without the compressor running to replenish the supply, the driver has a limited number of effective brake applications before pressure drops below the level needed to apply the brakes. This makes each remaining brake application precious.

45. B — As the flammable liquid absorbs heat from the sun and ambient air, some of it vaporizes, gradually increasing the pressure in the tank's headspace. When this pressure exceeds the vent's opening threshold, the pressurevacuum vent releases a small puff of vapor to prevent overpressure. This intermittent venting is the device performing its designed function — maintaining safe internal pressure.

46. D — A slow tire leak on a loaded tank vehicle is a developing emergency that will eventually result in a flat tire if not addressed. A flat tire on a loaded tank vehicle can cause

sudden loss of directional control, especially at highway speeds. The driver should gradually reduce speed and carefully move to the nearest safe pulloff area to address the tire before it fails completely.

47. A — The loading operator's informal characterization of a product as "mildly toxic" should not be the sole basis for PPE decisions. The driver should consult the Safety Data Sheet, the carrier's operational procedures, or both to determine the specific PPE required for the product being loaded. Documented safety requirements based on the material's actual properties always take precedence over casual assessments.

48. C — During the left curve, the liquid surges to the right (outside of the left turn). When the road transitions to the right curve, the liquid must reverse direction and surge to the left. During this transition, the liquid is momentarily traveling in the same direction as the new centrifugal force, creating a doublesurge effect that amplifies the rocking motion and can rapidly approach the rollover threshold.

49. B — An empty tank vehicle handles very differently from a loaded one. The large surface area acts as a sail in crosswinds, the reduced weight provides less tire traction, and the vehicle tends to bounce and sway more on rough roads. The driver should reduce speed moderately, increase alertness for crosswind gusts, and anticipate the lighter, less stable handling characteristics throughout the empty return trip.

50. D — Route familiarity breeds complacency — the gradual erosion of vigilance that comes from doing the same thing repeatedly without incident. A driver who has navigated the same curve 500 times without a problem may unconsciously increase speed, shorten following distances, or abbreviate pretrip inspections. Complacency is one of the leading contributing factors in experienceddriver accidents across all commercial vehicle categories.