

PRACTICE EXAM 5: HAZMAT & TANKER SIMULATION (50 QUESTIONS)

HAZMAT SECTION (Questions 1–30)

1. A driver is preparing to transport a mixed load containing both Division 1.4 Explosives (900 pounds) and Class 3 Flammable Liquid (1,200 pounds). Both are Table 2 materials. What placards must be displayed on the vehicle?

A. Only EXPLOSIVES 1.4 placards, because explosives always take precedence over all other hazard classes in placarding decisions

B. DANGEROUS placards only, because the vehicle contains two different hazard classes and neither is a Table 1 material

C. FLAMMABLE placards for the Class 3 material (which exceeds 1,001 pounds), and no placard for the Division 1.4 (which does not reach 1,001 pounds)

D. Both EXPLOSIVES 1.4 and FLAMMABLE placards, because both materials independently exceed their respective placarding thresholds

2. A shipper hands a driver shipping papers listing a material as "Hydrochloric acid, 8, UN1789, PG II, 2,400 lbs." The driver checks the packages and confirms that the proper shipping name, identification number, and labels all match the shipping papers. However, the driver notices the packages are stacked four high, with heavy drums on top of lighter boxes. Is there a loading concern?

A. Yes, heavier packages should be loaded on the bottom and lighter packages on top to prevent crushing, collapse, and potential container failure

B. No, because the stacking order of hazardous materials packages is determined solely by the shipper and is not the driver's responsibility

C. Yes, but only if the boxes on the bottom contain food products that could be contaminated by crushing contact with the acid drums

D. No, because Class 8 Corrosive materials in properly certified packaging can withstand any stacking configuration without risk of failure

3. Under what specific condition does a hazardous material with a Table 2 classification require placarding?

A. When the material is transported by a carrier that does not maintain a current hazardous materials safety permit from the FMCSA

B. When the material is shipped in bulk packaging regardless of weight, because bulk packaging automatically triggers placarding

C. When the material is being transported across state lines, because interstate commerce triggers additional placarding requirements

D. When the aggregate gross weight of all Table 2 materials of a single hazard class on the vehicle equals or exceeds 1,001 pounds

4. A driver is reviewing shipping papers and sees an entry for a material with the identification number "NA1993." What does the "NA" prefix indicate about this material compared to a material with a "UN" prefix?

A. The material is classified as nonhazardous for air transport but hazardous for highway transport within North American jurisdiction

B. The identification number is recognized only for transportation within North America and may not be recognized internationally

C. The material was recently reclassified from a UN designation and the NA number is a temporary placeholder during the transition

D. The material is exempt from all labeling requirements but still requires placarding when transported in quantities above 500 pounds

5. A driver transporting Division 2.1 Flammable Gas in cylinders on a flatbed trailer is preparing to stop for the night at a truck stop. The driver plans to sleep in the cab's sleeper berth. Is the vehicle considered "attended" while the driver is in the sleeper berth?

A. Yes, because the driver is physically present inside the vehicle and can respond to an emergency within a few seconds of waking

B. Yes, as long as the driver sets an alarm to wake up every two hours and conduct a walkaround inspection of the vehicle

C. No, the driver must be in the cab and awake, or within 100 feet with the vehicle in clear view — sleeping in the berth does not satisfy the attendance requirement

D. No, but the attendance requirement does not apply to Division 2.1 materials because they are Table 2 materials below the explosive risk threshold

6. An emergency responder at a HazMat incident finds the shipping papers on the driver's seat. One entry reads: "Environmentally hazardous substance, liquid, n.o.s. (copper sulfate solution), 9, UN3082, PG III, RQ, 1,500 lbs." What does the "RQ" notation tell the responder?

A. The material is a restricted quantity that may only be transported in vehicles with reinforced spill containment systems

B. The material has been recalled by the manufacturer and must be returned to the point of origin within 48 hours of notification

C. The material requires refrigeration during transport and the "RQ" indicates the required temperature range in Celsius

D. The quantity shipped meets or exceeds the reportable quantity, meaning any release during transport triggers mandatory notification to the National Response Center

7. Which of the following is a correct statement about the use of flares or fusees as warning devices when a vehicle carrying hazardous materials is stopped on the roadway?

A. Flares must not be used near vehicles carrying Division 1 Explosives, Class 3 Flammable Liquids, or Division 2.1 Flammable Gas — reflective triangles must be used instead

B. Flares may be used with any hazardous material as long as they are placed at least 500 feet from the vehicle in all directions

C. Flares are the preferred warning device for all HazMat vehicles because their bright light provides better visibility than reflective triangles

D. Flares may be used with Class 8 Corrosive materials only, while all other hazard classes require batterypowered emergency beacons

8. A driver picks up a load of hazardous materials at a shipper's facility. The shipper places the placards on the trailer and tells the driver everything is set. When the driver walks around the vehicle, only three placards are visible — the front placard is missing. Whose responsibility is it to ensure the fourth placard is in place?

A. The shipper exclusively, because placarding is the shipper's legal obligation and the driver has no role in verifying placard placement

B. Both the carrier and the driver share responsibility — the driver must verify that all four placards are correctly displayed before departing

C. The carrier exclusively, because the motor carrier is the only party with legal authority to affix placards to its own vehicles

D. The DOT inspector at the nearest weigh station, who will add missing placards as part of the standard roadside inspection process

9. A hazardous material is described on the shipping papers as "Flammable liquid, corrosive, n.o.s. (methanol, hydrochloric acid), 3, UN2924, PG II." The entry shows two technical names in parentheses. What does the presence of two technical names indicate?

A. The material is a blend of two nonhazardous liquids that become hazardous only when combined in the same container

B. The first technical name is the current contents and the second is the previous contents that remain as residue in the container

C. The two names represent the primary ingredient and a stabilizing agent added to prevent the material from decomposing during transport

D. The n.o.s. entry covers a mixture or solution, and both technical names identify the hazardous components that contribute to the material's classification

10. A driver is transporting hazardous materials on a highway and approaches a tunnel. A sign at the tunnel entrance reads "HAZARDOUS MATERIALS VEHICLES PROHIBITED." The driver's GPS shows no alternate route for 40 miles. What should the driver do?

A. Proceed through the tunnel at reduced speed with hazard flashers activated, because the long detour makes compliance impractical

B. Radio ahead to the tunnel authority and request a police escort to safely guide the HazMat vehicle through the tunnel

C. Take the alternate route regardless of the additional distance, because local tunnel restrictions on HazMat vehicles must be obeyed

D. Remove the placards temporarily, drive through the tunnel, and reapply the placards on the other side to avoid the 40mile detour

11. Under the Hazardous Materials Regulations, which of the following items must a shipper include on the shipping papers in addition to the five basic description elements?

A. A signed certification stating that the shipment has been properly classified, described, packaged, marked, labeled, and is in proper condition for transport

B. The driver's CDL number and the expiration date of the driver's current medical examiner's certificate

C. A photograph of each package showing the labels and markings as they appeared at the time of loading

D. The retail replacement value of the hazardous material and the name of the insurance company covering the shipment

12. A driver transporting a placarded load of Class 8 Corrosive material stops at a rest area. While parked, the driver notices another truck driver smoking a cigarette approximately 20 feet from the placarded vehicle. What should the driver do?

A. Ignore the situation because the nosmoking rule only applies to the driver of the HazMat vehicle, not to bystanders

B. Move the HazMat vehicle to a different parking space at least 100 feet from the smoking individual

C. Call law enforcement to issue a citation to the smoking driver for violating federal HazMat proximity regulations

D. Ask the smoking driver to extinguish the cigarette or move at least 25 feet away from the placarded vehicle

13. The Hazardous Materials Table assigns materials to hazard classes based on their primary hazard. Some materials present more than one type of hazard. How does the table communicate subsidiary hazards?

A. Subsidiary hazards are listed in a footnote at the bottom of each page of the Hazardous Materials Table for all materials on that page

B. Column 6 lists the primary hazard label first and any subsidiary hazard labels after it, indicating additional labels required on each package

C. Subsidiary hazards are communicated only through the material's proper shipping name and are never indicated in the table columns

D. The identification number in Column 4 is modified with a suffix letter (A, B, or C) to indicate the number and type of subsidiary hazards

14. A driver is transporting a load that includes both hazardous materials requiring the "INHALATION HAZARD" marking and pallets of bottled water on the same trailer. Is this loading configuration permitted?

A. Yes, because bottled water in sealed containers is not considered a foodstuff under the segregation regulations

B. Yes, as long as the inhalation hazard packages are placed in a separate sealed plastic bag within the trailer

C. No, Poison Inhalation Hazard materials must never be loaded in the same vehicle as any food or material intended for consumption

D. No, but only if the bottled water is being shipped for retail sale — water being shipped for industrial use may be loaded together

15. A shipping paper entry reads: "HOT, Asphalt, 9, NA1999, PG III, 6,000 gallons." What does the word "HOT" preceding the proper shipping name indicate?

A. The material is an elevated temperature material being transported at or above temperature thresholds specified in regulation

B. The material is classified as a high priority shipment that must be delivered within 24 hours of loading

C. The material has been flagged by the shipper's quality control department as recently failing a purity test

D. The material was loaded from a storage tank that had been exposed to direct sunlight and may have exceeded its recommended storage temperature

16. A driver receives a call from the dispatcher instructing the driver to pick up an additional load of Division 6.1 Toxic material at a second stop. The driver's current load includes cases of packaged food products being delivered to a grocery distribution center. Can the driver accept the toxic material?

A. Yes, as long as the toxic material is loaded at the front of the trailer and the food products are at the rear with at least 10 feet of separation

B. No, Division 6.1 Toxic materials must never be loaded on the same vehicle as food, animal feed, or materials intended for consumption

C. Yes, because the food products are in sealed cases and the toxic material will be in its original DOTcertified packaging

D. No, but the driver may accept the load if the toxic material is Packing Group III, which represents the lowest level of toxicity

17. A driver approaches a railroad grade crossing while transporting a placarded load of hazardous materials. The crossing has flashing lights and automatic gates, but the lights are not activated and the gates are up. Must the driver still stop before crossing?

A. Yes, because the flashing lights and gates indicate that this is a highrisk crossing where trains frequently pass at high speed

B. No, because the inactive lights and raised gates confirm that no train is approaching and the crossing is safe to proceed through

C. Yes, but only if the placarded material is a Table 1 material — Table 2 materials are exempt from mandatory railroad crossing stops

D. Yes, drivers of placarded HazMat vehicles must stop at all railroad grade crossings regardless of signal status, look and listen, and proceed only when safe

18. A vehicle is carrying 600 pounds of Division 4.2 Spontaneously Combustible material and no other hazardous materials. Division 4.2 is a Table 2 material. Are placards required?

- A. Yes, because Division 4.2 materials are reclassified as Table 1 when transported as the sole hazardous material on a vehicle
- B. Yes, because all Class 4 materials require placarding at any quantity regardless of the Table 1 or Table 2 designation
- C. No, because 600 pounds is below the 1,001pound Table 2 threshold and no other factors trigger a placarding requirement
- D. No, but the driver must carry a set of SPONTANEOUSLY COMBUSTIBLE placards in the cab in case additional material is added at a later stop

19. What is the primary purpose of the EntryLevel Driver Training (ELDT) requirement for firsttime HazMat endorsement applicants?

- A. To ensure that new HazMat drivers complete standardized theory training on hazardous materials identification, communication, handling, and emergency response before taking the knowledge test
- B. To provide behindthewheel training with a loaded HazMat vehicle on public highways under the supervision of a certified instructor
- C. To prepare drivers for the TSA background check by familiarizing them with the types of questions asked during the security interview
- D. To qualify drivers for a reduced insurance premium by documenting that they have completed an approved defensive driving course

20. A HazMat driver discovers during an enroute inspection that a package of Division 5.1 Oxidizer has been crushed by a heavier package that shifted during transit. The crushed package is leaking a white powder onto the trailer floor. What is the primary hazard the driver should be aware of?

- A. The white powder may be radioactive, and the driver should immediately measure the radiation level using a personal dosimeter
- B. The oxidizer powder can intensify the combustion of any organic material it contacts, significantly increasing fire risk if an ignition source is introduced
- C. The white powder will generate toxic gas upon contact with the metal trailer floor, creating an inhalation hazard for the driver

D. The oxidizer will spontaneously explode if exposed to ambient air temperatures above 80°F, requiring immediate cooling with water

21. Under 49 CFR, the term "proper shipping name" has a specific regulatory meaning. Which of the following best describes what a proper shipping name is?

A. The brand name or trade name assigned by the manufacturer of the hazardous material for marketing purposes

B. Any descriptive name the shipper chooses to accurately convey the contents of the package to the receiving customer

C. The chemical formula of the material (such as H₂SO₄ for sulfuric acid) as recognized by the International Union of Pure and Applied Chemistry

D. The standardized, legally mandated name listed in Column 2 of the Hazardous Materials Table that must be used on all shipping papers and markings

22. A driver is involved in a minor traffic accident while hauling a placarded load. There is no damage to the trailer or cargo, no release of hazardous material, and no injuries. The only damage is a dented fender on the tractor. Does this accident trigger any HazMat-specific reporting requirements?

A. Yes, all accidents involving placarded vehicles must be reported to the National Response Center within one hour regardless of severity

B. No, because no unintentional release of hazardous material occurred and none of the mandatory reporting triggers have been met

C. Yes, the driver must file DOT Form 5800.1 within 24 hours because any accident involving a placarded vehicle requires a written report

D. No, but the driver must call CHEMTREC to document the accident in the national HazMat incident tracking database for statistical purposes

23. A driver is transporting hazardous materials through a state that requires a special permit for vehicles carrying certain quantities of explosives. The driver does not have the permit. What should the driver do?

- A. Comply with the state requirement by obtaining the necessary permit or using an alternate route that avoids the state, because statespecific requirements must be followed
- B. Proceed through the state because federal HazMat regulations preempt all state and local transportation requirements without exception
- C. Contact the FMCSA to request a federal override that supersedes the state permit requirement for interstate commercial vehicles
- D. Remove the EXPLOSIVES placards before entering the state and reapply them after crossing into the next state to avoid the permit requirement

24. A cargo tank carrying sulfuric acid has been emptied at a delivery but has not been cleaned. A thin film of acid residue coats the interior walls of the tank, and acid vapors remain in the headspace. The driver removes the CORROSIVE placards because the tank is "empty." Is this correct?

- A. Yes, because the tank no longer contains a measurable volume of liquid sulfuric acid and is therefore exempt from placarding requirements
- B. Yes, as long as the driver replaces the CORROSIVE placards with "EMPTY — LAST CONTAINED CORROSIVE" placards on all four sides
- C. No, because the placards must remain until the tank is sufficiently cleaned of residue and purged of vapors to remove all potential hazard
- D. No, but the driver may replace the CORROSIVE placards with DANGEROUS placards as a universal substitute for residue loads

25. Which of the following most accurately describes the purpose of hazard warning labels on individual packages of hazardous materials?

- A. Labels serve as a tracking system that allows the shipper to identify packages in their inventory management database
- B. Labels provide the driver with loading instructions indicating which end of the package should face up during transport
- C. Labels indicate the retail price category of the hazardous material for customs valuation during international border crossings
- D. Labels provide a visual, colorcoded warning that communicates the type of hazard a material presents to anyone handling or encountering the package

26. A driver is transporting a load that includes 200 pounds of Division 2.3 Poison Gas (Table 1) and 500 pounds of Class 9 Miscellaneous Hazardous Material (Table 2). What placards must be displayed?

- A. Only POISON GAS placards, because Division 2.3 is Table 1 requiring placarding at any quantity, while the Class 9 material at 500 pounds does not reach the 1,001pound Table 2 threshold
- B. Both POISON GAS and CLASS 9 placards, because any vehicle carrying a Table 1 material must also placard for all other materials regardless of weight
- C. Only CLASS 9 placards, because Class 9 is the catchall category that takes placarding precedence on mixed loads below 2,000 total pounds
- D. DANGEROUS placards only, because the vehicle carries two different hazard classes and the DANGEROUS placard covers all combinations

27. A driver arrives at a hazardous waste disposal facility to deliver a load of hazardous waste. The facility manager signs the Uniform Hazardous Waste Manifest, accepting the waste. What happens to the manifest copies?

- A. All copies of the manifest are retained by the disposal facility and no copies are returned to the driver, carrier, or generator
- B. The driver keeps all copies and mails them to the EPA regional office within 30 days along with DOT Form 5800.1
- C. Copies are distributed among the generator, transporter, and receiving facility to maintain a complete chainofcustody record for each party
- D. The manifest is destroyed at the point of delivery because its purpose was fulfilled when the waste arrived at the designated facility

28. A shipper offers a driver a package marked "Limited Quantity" with the appropriate limited quantity marking (a diamond with a black upper and lower corner on a white background). The shipper states that no placards are needed and no HazMat endorsement is required for this shipment. Is the shipper correct?

- A. Yes, materials shipped under the limited quantity exception are exempt from placarding requirements and the driver does not need a HazMat endorsement when the shipment qualifies for this exception

B. No, limited quantity shipments still require full placarding and the HazMat endorsement, but they are exempt from shipping paper requirements

C. Yes, but only if the limited quantity shipment is the only cargo on the vehicle — adding any other freight voids the exception

D. No, the limited quantity exception reduces only the packaging requirements and has no effect on placarding or endorsement obligations

29. A driver notices during a pretrip inspection that one of the four placards on the vehicle has been rotated 45 degrees, so it is displayed as a square (flat side up) rather than as a diamond (point up). Is this a compliance issue?

A. No, because the hazard class number and symbol are still visible regardless of the placard's rotational orientation on the vehicle

B. No, because placards may be displayed in either diamond or square orientation at the driver's discretion based on available mounting hardware

C. Yes, but only if the placard is on the front or rear of the vehicle — sidemounted placards may be displayed in any orientation

D. Yes, placards must be displayed in a diamond orientation with one point facing up, and a rotated placard does not comply with regulations

30. A driver is pulling into a fuel station with a placarded HazMat vehicle and notices a small brush fire burning in a grassy area approximately 200 feet from the fuel pumps. What should the driver do?

A. Proceed with fueling because 200 feet exceeds the minimum clearance distance required between a placarded vehicle and an ignition source

B. Do not stop at this fuel station because a placarded vehicle must not be parked within 300 feet of an open fire — find an alternate fueling location

C. Park the vehicle and report the brush fire to the fuel station attendant before beginning the fueling process

D. Proceed with fueling but position the vehicle so that the side of the truck facing away from the fire is closest to the fuel pumps

TANKER SECTION (Questions 31–50)

31. A tank vehicle driver is approaching a Tintersection where a stop is required. The driver is hauling a full load of liquid in a smooth bore tank. What braking technique should the driver use to come to a safe, controlled stop?

- A. Apply maximum brake pressure at the last possible moment to minimize the total stopping time and distance at the intersection
- B. Begin braking well before the intersection, applying brake pressure gradually and steadily to decelerate the vehicle and the liquid at a similar rate
- C. Pump the brakes rapidly in short bursts to prevent the liquid from building sustained momentum in any one direction
- D. Apply the parking brake simultaneously with the service brakes to double the braking force available at the intersection

32. A driver operating a loaded tank vehicle is driving through a mountainous region and enters a stretch of highway with a long, sustained 7 percent downgrade over six miles. Before beginning the descent, the driver should take which preparatory action?

- A. Select a lower gear that provides adequate engine retardation to maintain a safe speed before the descent begins, rather than waiting until speed builds
- B. Shift into the highest available gear to maximize fuel efficiency during the descent, then apply the brakes as needed to control speed
- C. Engage the cruise control at the current speed and allow the vehicle's automatic systems to manage the descent speed
- D. Accelerate to 10 mph above the current speed to build momentum that will carry the vehicle over any uphill sections within the downgrade

33. A driver notices that the liquid level gauge on an MC 331 propane tank shows the tank is 90 percent full. The ambient temperature is expected to rise 25°F during the day. Why should the driver be concerned about this fill level?

- A. At 90 percent full, the tank does not have enough liquid weight to maintain safe traction on the drive axles during the trip

B. The 90 percent fill level leaves adequate outage for a 10°F temperature rise but may be insufficient for a 25°F rise, potentially creating a hydraulicfull condition

C. Propane does not expand with temperature increases because it is stored as a pressurized liquid, so the fill level is not a concern

D. The tank's internal baffles will prevent any expansionrelated pressure increase by redistributing the liquid evenly across all compartments

34. A tank vehicle driver makes two deliveries from a fivecompartment tank, emptying compartments 1 and 5 (the outermost compartments) while leaving compartments 2, 3, and 4 (the center compartments) full. How does this delivery pattern affect the vehicle compared to emptying compartments 1 and 2 (the two front compartments)?

A. Emptying the outermost compartments is always unsafe because it creates a structural imbalance that stresses the tank shell unevenly

B. Emptying the outer compartments maintains more balanced weight distribution across the axles compared to emptying both front compartments

C. Both delivery patterns produce identical handling characteristics because the total weight removed from the vehicle is the same

D. Emptying the outermost compartments causes the center compartments to experience double the normal liquid surge forces

35. What is the function of vapor recovery valves on a petroleum cargo tank?

A. They allow fresh air to enter the tank during unloading to replace the liquid being removed, preventing a vacuum condition

B. They filter toxic vapors from the tank's headspace before releasing them into the atmosphere during loading operations

C. They capture displaced vapors during loading and return them to the facility's vapor recovery system instead of releasing them into the atmosphere

D. They regulate the internal pressure of the tank during highway transport by continuously venting small amounts of vapor through a carbon filter

36. A driver operating a tank vehicle at highway speed suddenly encounters a large piece of debris in the travel lane. The driver must choose between hard braking and a hard swerve to avoid the debris. What factor unique to tank vehicles should influence this decision?

A. A hard swerve at highway speed carries extreme rollover risk due to the high center of gravity and lateral liquid surge, making hard braking generally the safer option despite the increased stopping distance from surge

B. A hard swerve is always preferable in a tank vehicle because the liquid cargo absorbs lateral forces and stabilizes the vehicle during rapid lane changes

C. Hard braking is always more dangerous than swerving because liquid surge eliminates all forward braking effectiveness at highway speeds

D. Neither option is significantly more dangerous than the other because modern tank vehicles are equipped with electronic stability control that prevents both rollover and surgerelated skids

37. A cargo tank driver is performing a pretrip inspection and tests the remote emergency shutoff by pulling the handle. The handle moves freely and the internal valve closes as expected. The driver then attempts to reopen the valve using the manual reset mechanism, but the valve does not reopen. What should the driver do?

A. Load the tank through the manhole opening instead of through the loading valve, bypassing the stuck internal valve entirely

B. Apply lubricant to the valve mechanism, force it open using a pry bar, and proceed with loading if the valve eventually opens

C. Drive to the nearest repair facility to have the valve serviced, since the tank cannot be loaded or unloaded without a functional internal valve

D. Report the malfunction to the carrier and have the valve professionally repaired before loading or operating the vehicle, since a nonfunctional internal valve compromises emergency shutoff capability

38. A tanker driver is delivering fuel to a gas station. The station's underground storage tank capacity is 10,000 gallons. The station manager reports the tank is currently at 4,200 gallons. The driver has 5,500 gallons to deliver. Before beginning the transfer, what should the driver verify?

- A. That the station's retail fuel price is displayed correctly on the pumps before any product is added to the underground tank
- B. That the receiving tank has adequate capacity for the full delivery — 10,000 minus 4,200 equals 5,800 gallons available, which can accept the 5,500gallon delivery
- C. That the station's fire suppression system has been tested within the past 30 days as documented on the facility's inspection certificate
- D. That all vehicles at the station's fuel pumps have completed fueling and departed before any product transfer begins

39. Why does a partially loaded tank vehicle have a higher rollover risk on curves than the same vehicle when fully loaded?

- A. A partially loaded vehicle is lighter, which reduces tire traction and makes the tires more likely to lose grip on curved road surfaces
- B. A partially loaded tank has a lower center of gravity, which paradoxically makes the vehicle less stable due to reduced gravitational anchoring
- C. The liquid in a partially loaded tank has room to surge laterally to the outside of the curve, dynamically raising the center of gravity beyond what a full tank would produce
- D. Partial loads cause the tank shell to flex and deform under uneven internal pressure, changing the vehicle's aerodynamic profile during turns

40. During a cargo tank pretrip inspection, a driver discovers that the specification plate is missing from the tank entirely — the mounting rivets are visible, but the plate has fallen off or been removed. Can the driver operate the vehicle?

- A. No, the specification plate is the tank's regulatory identity document and must be present and legible — the driver should report the missing plate and not operate the vehicle until it is replaced
- B. Yes, because the specification plate is an informational reference that has no bearing on the tank's legal authorization to transport hazardous materials
- C. No, but the driver may create a temporary handwritten specification plate using information from the carrier's maintenance records
- D. Yes, as long as the driver carries a photocopy of the original specification plate in the cab alongside the shipping papers

41. A tank vehicle is being unloaded using a PTO powered pump. The driver notices that the discharge hose is vibrating violently and the pump sounds louder than normal. What could this indicate, and what should the driver do?

A. The pump is operating normally at peak efficiency, and the vibration and noise indicate maximum flow rate has been achieved

B. The violent vibration is caused by wind buffeting the hose and is not related to the pump operation or product flow

C. The pump may be cavitating or running dry, and the driver should reduce the pump speed or stop the pump to prevent damage and investigate the cause

D. The increased noise means the product is flowing faster than expected, and the driver should open additional discharge valves to reduce hose pressure

42. A tank vehicle driver completes a delivery and begins driving to the next stop. The tank is now approximately 30 percent full. Compared to the handling of the vehicle when it was fully loaded at the start of the day, how should the driver adjust their driving?

A. No adjustment is needed because the reduced weight makes the vehicle easier to control in all driving situations

B. The driver should increase speed slightly to compensate for the reduced momentum that the lighter vehicle provides on upgrades

C. The driver should drive more aggressively to complete the remaining deliveries faster, since the lighter load reduces stopping distance

D. The driver should increase following distance, reduce cornering speed, and brake even more gently because the partial load produces more severe surge and higher rollover risk

43. What is the primary purpose of the leakage test performed annually on cargo tanks?

A. To measure the wall thickness of the tank shell at multiple points to detect metal loss from internal corrosion or external erosion

B. To verify that all valves, closures, and fittings maintain a tight seal at operating pressure and do not allow product or vapor to escape

C. To test the structural integrity of the tank by pressurizing it to its rated test pressure and checking for permanent deformation

D. To verify that the tank's emergency shutoff valves close within the time limits specified by the manufacturer's performance standards

44. A driver is loading a cargo tank with a flammable liquid at a bulk terminal. The loading arm is positioned above the manhole opening, and the product is falling freely through the air before hitting the liquid surface inside the tank, creating significant splashing. What hazard does this "splash loading" create?

A. Splash loading generates static electricity and flammable vapor, creating an ignition risk — the driver should request submerged loading or reduce the flow rate until the outlet is below the liquid surface

B. Splash loading introduces air bubbles into the product, reducing its quality and commercial value at the delivery point

C. Splash loading erodes the interior coating of the tank shell, shortening the tank's service life and voiding its specification plate certification

D. Splash loading causes the liquid to foam excessively, which interferes with the accuracy of the tank's liquid level measurement gauges

45. A tank vehicle driver experiences a complete loss of steering while traveling at 35 mph on a straight, flat road with a full load of liquid cargo. What is the safest response?

A. Shift into reverse gear immediately to create a braking force that will slow the vehicle without requiring steering input

B. Apply maximum brake pressure to stop the vehicle as quickly as possible before it drifts into oncoming traffic or off the road

C. Accelerate briefly to regain steering response, which may be caused by a hydraulic power steering failure at low engine RPM

D. Gradually reduce speed by easing off the accelerator and gently applying the brakes, avoiding sudden inputs that could trigger surgeinduced directional changes

46. A loaded tank vehicle is parked on a slight downhill grade at a delivery site. The driver sets the parking brake, exits the cab, and walks to the discharge area at the rear of the vehicle. While

connecting the product hose, the driver notices the vehicle has begun to creep slowly forward. What is the most likely cause?

- A. The engine idle speed has increased due to a malfunction, slowly overcoming the parking brake through the engaged transmission
- B. The parking brake is not sufficient to hold the heavy loaded vehicle on the grade, and the driver should have also chocked the wheels
- C. The liquid cargo is surging toward the front of the tank due to a temperature-induced expansion event, pushing the vehicle forward
- D. The discharge hose connection is pulling the vehicle forward because the receiving tank's pump has engaged prematurely

47. Which of the following is a key difference between a hydrostatic pressure test and a pneumatic pressure test when testing a cargo tank?

- A. A hydrostatic test uses compressed air while a pneumatic test uses pressurized water, and the two terms refer to opposite testing methods
- B. A hydrostatic test uses water as the pressurizing medium, while a pneumatic test uses air or inert gas — hydrostatic is generally considered safer because water is nearly incompressible
- C. A hydrostatic test measures the tank's external crush resistance, while a pneumatic test measures the tank's internal burst resistance
- D. There is no meaningful difference — the terms are interchangeable and both refer to pressurizing the tank to its rated test pressure

48. A driver operating a tank vehicle in foggy conditions with visibility reduced to approximately 200 feet should make which adjustments to their normal driving behavior?

- A. Reduce speed significantly to allow adequate stopping distance within the visible range, increase following distance, and use lowbeam headlights
- B. Maintain normal highway speed but activate the vehicle's fourway hazard flashers to increase visibility to other motorists
- C. Pull off the highway completely and wait for the fog to clear, because tank vehicles are prohibited from operating in visibility below 500 feet

D. Increase speed to move through the fog bank as quickly as possible, minimizing the total time spent driving in reduced visibility conditions

49. A tank vehicle's manhole cover is equipped with a pressurevacuum vent built into the cover. What is the function of this device?

A. It provides a backup pressure relief system that activates only if the primary springloaded pressure relief valve on the tank shell fails completely

B. It allows air to enter the tank during unloading to prevent a vacuum from forming, and allows vapor to escape during loading to prevent overpressure

C. It acts as a tamperevident seal that breaks if anyone attempts to open the manhole cover without the proper authorization key

D. It filters incoming air through activated charcoal to prevent atmospheric contaminants from entering the tank and contaminating the product

50. A tank vehicle carrying nonhazardous liquid is involved in a rollover on a highway exit ramp. The driver is uninjured and has exited the vehicle. Liquid is leaking from a damaged manhole cover. Even though the liquid is nonhazardous, why should the driver still exercise caution?

A. Nonhazardous liquids become classified as hazardous materials automatically when they are released from a damaged container during a traffic accident

B. The liquid may have been contaminated by a previous hazardous load if the tank was not properly cleaned between uses

C. The driver is legally required to collect and repackage all spilled nonhazardous liquid before emergency services arrive at the scene

D. The leaking liquid creates a slippery road surface hazard for other vehicles, the overturned tank may be structurally unstable, and further shifting could cause additional damage or injury

Practice Exam 5: Answer Key and Explanations

- 1. C** — Class 3 Flammable Liquid at 1,200 pounds exceeds the 1,001-pound Table 2 threshold, requiring FLAMMABLE placards. Division 1.4 Explosives at 900 pounds does not reach the 1,001-pound Table 2 threshold, so no EXPLOSIVES 1.4 placard is required. Each hazard class is evaluated independently against the 1,001-pound threshold — one class exceeding it does not trigger placarding for the other.
- 2. A** — Proper cargo securement requires heavier packages on the bottom and lighter packages on top to prevent crushing, collapse, and container failure. Heavy drums of corrosive acid stacked on top of lighter boxes can crush the lower packages, potentially breaching containment and releasing hazardous material. The driver should require the shipper to restack the load correctly before accepting it.
- 3. D** — Table 2 materials require placarding when the aggregate gross weight of all Table 2 materials of a single hazard class on the vehicle equals or exceeds 1,001 pounds. Below this threshold, placarding is generally not required for Table 2 materials. Table 1 materials, by contrast, require placarding at any quantity with no minimum weight threshold.
- 4. B** — The "NA" prefix indicates that the identification number is recognized only for transportation within North America (United States, Canada, and Mexico). NA numbers occupy the range NA8000 through NA9999 to avoid overlap with internationally recognized UN numbers. A material with a UN prefix is regulated under both domestic and international transportation frameworks.
- 5. C** — A vehicle carrying placarded hazardous materials is considered attended only when the driver is in the cab and awake or within 100 feet of the vehicle with it in clear, unobstructed view. Sleeping in the sleeper berth does not satisfy the attendance requirement because the driver is not awake and cannot monitor the vehicle or respond immediately to an emergency. The vehicle must be in a safe haven for unattended overnight parking.
- 6. D** — The "RQ" notation on shipping papers indicates that the quantity shipped meets or exceeds the material's reportable quantity as established by the EPA under CERCLA. If any of this material is released during transport — through a leak, spill, or accident — mandatory notification to the National Response Center at 18004248802 is required regardless of other circumstances.
- 7. A** — Flares and other flame-producing warning devices must never be used near vehicles carrying Division 1 Explosives, Class 3 Flammable Liquids, or Division 2.1 Flammable Gas because the open flame could ignite explosive materials, flammable vapors, or gas leaks. Reflective triangles must be used instead. This prohibition is absolute regardless of the distance between the flare and the vehicle.
- 8. B** — Both the carrier and the driver share responsibility for ensuring proper placarding. While the shipper or carrier may physically mount the placards, the driver is the person in control of the vehicle and must verify that all four placards are correctly displayed before departing. A missing placard discovered during a roadside inspection is cited as a violation against the driver.

9. D — When a proper shipping name uses the n.o.s. designation, the technical names of the hazardous components must be shown in parentheses following the proper shipping name. Two technical names indicate the material is a mixture or solution containing two identified hazardous components — in this case, methanol and hydrochloric acid — both of which contribute to the material's hazard classification.

10. C — Local tunnel restrictions on hazardous materials vehicles must be obeyed regardless of the inconvenience of alternate routing. Many tunnels prohibit HazMat vehicles because a release or fire in a confined tunnel space would be catastrophic, with limited ventilation and restricted evacuation options. The driver must take the alternate route even if it adds significant distance to the trip.

11. A — In addition to the five basic description elements, the shipper must include a signed certification on the shipping papers stating that the shipment has been properly classified, described, packaged, marked, labeled, and is in proper condition for transportation. This certification is the shipper's legal attestation of regulatory compliance and is a mandatory element under 49 CFR Part 172.

12. D — No person may smoke within twentyfive feet of a placarded vehicle at any time. The driver is responsible for enforcing this rule in the immediate area of the vehicle. The appropriate response is to politely but firmly ask the smoking individual to extinguish the cigarette or move at least 25 feet away. This applies to all persons, not just the driver of the HazMat vehicle.

13. B — Column 6 of the Hazardous Materials Table lists all required labels for each material. The primary hazard label is listed first, and any subsidiary hazard labels follow. When multiple labels are listed, all must be affixed to each package. Subsidiary labels communicate additional hazards beyond the primary classification that affect handling, segregation, and emergency response.

14. C — Poison Inhalation Hazard materials must never be loaded in the same vehicle as food, animal feed, or any material intended for human or animal consumption. Bottled drinking water is a material intended for human consumption. This prohibition is absolute — no amount of packaging, separation, or sealing within the same vehicle satisfies the requirement.

15. A — The word "HOT" preceding a proper shipping name indicates the material is an elevatedtemperature material being transported at or above regulatory temperature thresholds — 212°F for liquids or 464°F for solids. This designation alerts handlers and responders that the material presents a severe burn hazard on contact and may also present fire risks if it is above its flash point.

16. B — Division 6.1 Toxic materials must never be loaded on the same vehicle as food, animal feed, or materials intended for human or animal consumption. This segregation rule is absolute and applies regardless of the packing group, packaging type, or physical separation within the vehicle. The driver must refuse the additional toxic material pickup while carrying the food products.

17. D — Drivers of placarded HazMat vehicles must stop at all railroad grade crossings regardless of whether signals are active, gates are present, or conditions appear safe. The driver must stop within 50 feet but not closer than 15 feet from the nearest rail, look and listen in both

directions, and proceed only when certain no train is approaching. This mandatory stop applies at every crossing without exception.

18. C — Division 4.2 Spontaneously Combustible is a Table 2 material. At 600 pounds, the load is well below the 1,001 pound threshold required for Table 2 placarding. With no other hazardous materials on the vehicle to combine toward the threshold, no placards are required. Table 2 materials only trigger placarding when the aggregate weight per class reaches or exceeds 1,001 pounds.

19. A — The ELDT requirement for firsttime HazMat endorsement applicants ensures that drivers complete standardized theory training covering hazardous materials identification, the communication system, proper handling procedures, and emergency response before they are eligible to take the HazMat knowledge test at the DMV. Only theory training is required for the HazMat endorsement — no behindthewheel component is mandated.

20. B — Division 5.1 Oxidizers yield oxygen readily, which dramatically intensifies the combustion of organic materials they contact. A crushed, leaking oxidizer package on a trailer floor creates a significant fire risk because the oxidizer powder can cause normally slowburning materials — wood, paper, cardboard, clothing — to ignite and burn with extreme intensity if an ignition source is introduced.

21. D — A proper shipping name is the standardized, legally mandated name listed in Column 2 of the Hazardous Materials Table that must be used on all shipping papers, package markings, and official transportation documentation. It is not a trade name, brand name, chemical formula, or informal description. Using any name other than the proper shipping name is a regulatory violation that breaks the communication chain.

22. B — A minor fenderbender with no release of hazardous material, no injuries, and no significant property damage does not trigger HazMat-specific reporting requirements. The mandatory NRC notification triggers include death, hospitalization, property damage exceeding \$50,000, evacuation lasting one hour or more, and road closure lasting one hour or more. A dented fender meets none of these criteria.

23. A — While federal regulations establish the baseline for HazMat transportation, states and local jurisdictions can impose additional requirements — including special permits, route restrictions, and advance notification for certain hazardous materials. Drivers must comply with both federal and applicable state requirements. The driver should obtain the permit or use an alternate route that avoids the state.

24. C — A cargo tank that has been drained but not cleaned or purged must continue to display the placards required for the material it previously contained. Residual liquid film and chemical vapors remaining in the "empty" tank present the same hazards as the original product. Placards must remain until the tank is sufficiently cleaned and purged to remove all potential hazard.

25. D — Hazard warning labels are diamondshaped, colorcoded symbols affixed to individual packages that visually communicate the type of hazard a material presents. Each label corresponds to a specific hazard class through its color, symbol, and class number. Labels serve as the packagelevel layer of the communication system, visible to anyone handling or inspecting the cargo at close range.

26. A — Division 2.3 Poison Gas is a Table 1 material requiring POISON GAS placards at any quantity — the 200 pounds triggers this requirement regardless of weight. Class 9 at 500 pounds does not reach the 1,001 pound Table 2 threshold, so no CLASS 9 placard is required. Each material is evaluated independently — a Table 1 material requiring placarding does not automatically trigger placarding for Table 2 materials below their threshold.

27. C — The Uniform Hazardous Waste Manifest is a multicopy document designed to maintain a chain of custody record. Copies are distributed among the generator (who originated the waste), the transporter (the carrier and driver), and the receiving treatment, storage, or disposal facility. Each party retains its copy as proof that the waste was handled and delivered in compliance with RCRA requirements.

28. A — Materials shipped under the limited quantity exception are exempt from many standard HazMat requirements, including placarding and the HazMat endorsement requirement, because the small quantities involved present a reduced risk during transportation. However, the shipment must genuinely qualify for the exception — the quantities must be within regulatory thresholds, and the appropriate limited quantity marking must be applied.

29. D — Placards must be displayed in a diamond orientation with one point facing upward. A placard rotated 45 degrees to appear as a square does not comply with regulations because the diamond orientation is part of the standardized visual language that drivers, enforcement officers, and emergency responders are trained to recognize. An incorrectly oriented placard may not be recognized as a HazMat warning from a distance.

30. B — A placarded vehicle must never be parked within 300 feet of an open fire. A brush fire 200 feet from the fuel pumps places the entire fueling area within the prohibited zone. The driver should not stop at this station and should find an alternate fueling location where the 300-foot clearance from open fire can be maintained.

31. B — In a smooth bore tank, there are no internal baffles to slow forward surge. The entire liquid mass rushes forward as a single wave during braking. Beginning to brake well before the intersection and applying pressure gradually gives the liquid time to decelerate progressively with the vehicle, minimizing the peak surge force. Sudden or late braking produces a violent surge that can push the vehicle into the intersection.

32. A — The driver must select a lower gear that provides adequate engine retardation before beginning the descent. Selecting the gear while still on level ground or at the top of the grade ensures the engine is providing braking force from the start. Waiting until speed builds on the downgrade makes it difficult or impossible to downshift safely, leaving the driver dependent on the service brakes, which can overheat and fade on a six-mile grade.

33. D — At 90 percent full, the tank has only 10 percent outage. If the ambient temperature rises 25°F, the propane will expand significantly. If the expansion exceeds the available outage space, the tank could reach a hydraulic full condition — completely filled with liquid — which eliminates the vapor space that normally absorbs thermal expansion. A hydraulic full tank experiences rapid pressure increases with any further temperature rise, risking catastrophic failure.

34. B — Emptying the outermost compartments (1 and 5) while keeping the center compartments (2, 3, and 4) full maintains a more centered weight distribution across the axle

groups. Emptying both front compartments would shift weight heavily rearward, overloading trailer axles and underloading drive axles. Balanced delivery sequencing keeps the vehicle's handling predictable and axle weights closer to legal limits throughout the route.

35. C — Vapor recovery valves capture the vapors displaced from the tank during loading — as liquid enters the tank, the vapors above the liquid are pushed out and routed through the vapor recovery system back to the facility's storage, rather than being released into the atmosphere. This reduces air pollution, prevents loss of volatile product, and minimizes the concentration of flammable vapors near the loading operation.

36. A — A hard swerve at highway speed in a tank vehicle carries extreme rollover risk because the lateral liquid surge combined with the high center of gravity can exceed the vehicle's stability threshold almost instantaneously. While hard braking also carries risks due to forward surge, it generally presents a lower probability of catastrophic outcome than a rollover. The driver must weigh each option based on the specific situation.

37. D — An internal valve that closes properly but cannot be reopened indicates a mechanical malfunction in the valve mechanism. This valve must function reliably in both directions — closing in an emergency and reopening for normal loading and unloading operations. A stuck valve compromises the tank's operational capability and emergency shutoff function. It must be professionally repaired before the vehicle is loaded or operated.

38. B — The driver must verify that the receiving tank has adequate capacity before beginning the transfer. With 4,200 gallons currently in a 10,000gallon tank, there are 5,800 gallons of available capacity — enough to accept the full 5,500gallon delivery with 300 gallons to spare. Verifying capacity before pumping prevents overfilling the customer's tank, which could cause a dangerous spill.

39. C — In a partially loaded tank, the liquid has room to surge laterally to the outside of curves. As the liquid masses against the outer wall and climbs the curved interior surface, it dynamically raises the center of gravity beyond the static level. A fully loaded tank has minimal room for the liquid to shift, so the center of gravity remains essentially fixed. The partial load creates a moving, unpredictable center of gravity that significantly increases rollover risk.

40. A — The specification plate is the cargo tank's regulatory identity document — it contains the DOT specification number, MAWP, test pressure, construction materials, capacity, and testing history. Without it, the tank's authorization to transport hazardous materials cannot be verified, and inspectors cannot confirm that the tank meets the specification required for the product being carried. The driver should not operate the vehicle until the plate is replaced.

41. C — Violent hose vibration and unusual pump noise typically indicate cavitation (the pump is drawing in air along with liquid) or the pump running dry (the tank is nearly empty and air is entering the suction line). Continued operation can damage the pump, overheat the system, and potentially create a fire hazard. The driver should reduce pump speed or stop the pump entirely and investigate the cause before resuming.

42. D — A 30 percent load produces more severe surge than the full load the driver started with, because the liquid has significantly more room to build momentum during braking and to shift laterally during turns. The driver should increase following distance, reduce cornering

speed, and brake more gently than when the tank was full. A partial load demands more conservative driving despite the reduced total weight.

43. B — The annual leakage test checks all valves, closures, and fittings on the cargo tank for leaks at operating pressure. Unlike the full pressure test (which tests the tank shell's structural integrity), the leakage test specifically verifies that every opening — discharge valves, manhole covers, loading connections, and piping joints — maintains a tight seal and does not allow product or vapor to escape.

44. A — Splash loading — where liquid falls freely through air inside the tank — generates significant static electricity as the liquid impacts the tank walls and the liquid surface. It also produces large quantities of flammable vapor from the turbulence and splashing. Both static electricity and flammable vapor are necessary components of a fire triangle. Submerged loading or reduced flow rates eliminate the splash and dramatically reduce both hazards.

45. D — A complete loss of steering is a critical emergency in any vehicle, but in a loaded tank vehicle, sudden inputs are particularly dangerous because they trigger surge that can amplify uncontrolled directional changes. Gradually reducing speed by easing off the accelerator and gently applying the brakes minimizes surge forces and gives the vehicle the best chance of tracking straight while decelerating to a stop.

46. B — The most likely cause is that the parking brake alone is insufficient to hold the heavy loaded vehicle on the downhill grade. The parking brake is designed to hold a vehicle on moderate grades, but a fully loaded tank vehicle may exceed the brake's holding capacity on steeper slopes. Chocking the wheels provides a positive mechanical block that prevents any forward or rearward movement regardless of grade or vehicle weight.

47. B — A hydrostatic pressure test uses water as the pressurizing medium, while a pneumatic test uses air or inert gas. Hydrostatic testing is generally considered safer because water is nearly incompressible — if the tank fails during a hydrostatic test, the water releases relatively little energy. Air, by contrast, is highly compressible and stores significant energy when pressurized, meaning a tank failure during a pneumatic test can produce a violent explosion.

48. A — Fog reduces visibility, which directly affects the driver's ability to perceive hazards and react in time to stop safely. In a tank vehicle, where stopping distance is already extended by liquid surge, the driver must reduce speed enough to stop within the visible distance ahead. Increasing following distance and using lowbeam headlights (which reduce glare from fog) are essential supplementary measures.

49. C — The pressurevacuum vent built into a manhole cover serves a dual function. During loading, it allows displaced vapor to escape the tank as liquid enters, preventing overpressure. During unloading, it allows air to enter the tank as liquid is removed, preventing a vacuum from forming that could collapse the tank or slow the unloading process. It maintains atmospheric equilibrium inside the tank during product transfer.

50. D — Even though the liquid is nonhazardous, the overturned vehicle and leaking liquid create several safety hazards. The spilled liquid creates a slippery road surface for approaching traffic. The overturned tank is structurally unstable and could shift or roll further. Additional liquid release could worsen road conditions. The driver should maintain a safe distance, warn approaching traffic, and wait for emergency responders to secure the scene.