PRACTICE EXAM 4: HAZMAT & TANKER SIMULATION (50 QUESTIONS)

HAZMAT SECTION (Questions 1–30)

1. A driver picks up a shipment at a chemical warehouse. The shipping papers show "Phosphoric acid solution, 8, UN1805, PG III, 4,000 lbs." The shipper has placed CORROSIVE placards on the trailer. Before departing, the driver notices no identification number is displayed on or near the placards. Is the vehicle ready for transport?

A. No, the fourdigit identification number must be displayed on placards or adjacent orange panels for bulk shipments exceeding 1,001 pounds

B. Yes, because identification numbers on placards are optional for nonbulk packaged shipments regardless of total weight

C. No, but only because phosphoric acid specifically requires a special "ACID" placard in addition to the standard CORROSIVE placard

D. Yes, because the identification number is required only on the shipping papers and package markings, never on the vehicle itself

2. A driver is assigned a load containing 400 pounds of Class 3 Flammable Liquid, 300 pounds of Class 8 Corrosive, and 350 pounds of Division 5.1 Oxidizer. All are Table 2 materials. What is the correct placarding decision?

A. No placards are required because no individual class reaches 1,001 pounds and the combined total is only 1,050 pounds

B. All three classspecific placards must be displayed because any vehicle carrying three or more hazard classes requires full placarding

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

D. Only the FLAMMABLE placard is required because Class 3 has the highest individual weight among the three materials

3. During a delivery, a customer asks the driver to leave three drums of Class 6.1 Toxic material in a warehouse bay that also stores palletized cases of bottled drinking water. The customer says the drums will only be there temporarily. Should the driver comply?

A. Yes, because the segregation rules apply only during transportation and do not restrict storage at the customer's facility

B. No, because toxic materials must never be stored in the same space as food or materials intended for human consumption

C. Yes, as long as the drums are placed on a spill containment pallet and the water is covered with a protective tarpaulin

D. No, but only if the toxic material is classified as Packing Group I with an Inhalation Hazard Zone designation

4. A driver is transporting a load of Class 9 Miscellaneous Hazardous Materials weighing 2,500 pounds. The material is lithium batteries being shipped to a recycling facility. What placard is required?

A. No placard is required because Class 9 materials are exempt from all placarding requirements regardless of quantity

B. DANGEROUS placards must be used for Class 9 materials because they do not have a dedicated classspecific placard design

C. A blank white placard with no text or symbols must be displayed because Class 9 materials are considered lowhazard

D. CLASS 9 placards — white with black vertical stripes at the top — must be displayed on all four sides of the vehicle

5. A shipping paper lists four hazardous material entries and eight nonhazardous entries. The four HazMat entries are listed as items 3, 6, 9, and 11 on the document, scattered among the nonhazardous entries, with an "X" placed in a column labeled "HM" next to each hazardous entry. Does this meet the requirement to distinguish HazMat entries?

A. Yes, placing an "X" in a designated HazMat column is one of the accepted methods for distinguishing hazardous entries from nonhazardous entries

B. No, the only acceptable method is to list all hazardous materials first on the document before any nonhazardous entries

C. Yes, but only if the "X" is printed in red ink rather than black ink to provide additional visual contrast on the document

D. No, each hazardous entry must also be individually circled and the driver must initial next to each circle to confirm review

6. A driver is transporting Division 1.3 Explosives and needs to stop for fuel. After fueling, the driver walks to the truck stop restaurant 150 feet away to use the restroom, leaving the vehicle unattended for approximately five minutes. Is this acceptable?

A. Yes, because a fiveminute absence is considered a brief operational stop that does not violate the attendance requirement

B. Yes, as long as the driver sets the parking brake and activates the fourway hazard flashers before walking away

C. No, vehicles carrying Division 1.1, 1.2, or 1.3 explosives must be attended at all times — 150 feet exceeds the 100foot limit and the vehicle is out of required view

D. No, but only because the driver should have parked at a facility specifically licensed for explosives vehicle fueling operations

7. The ERG's yellowbordered pages list hazardous materials organized in which manner?

A. Alphabetically by proper shipping name, with the threedigit guide number and hazard class listed beside each entry

B. Numerically by fourdigit identification number, with the material name and threedigit guide number beside each entry

C. By hazard class in ascending order from Class 1 through Class 9, with all materials grouped under their respective class

D. By the date each material was added to the regulatory system, with the most recently listed materials appearing first

8. A hazardous material entry on a shipping paper reads: "Sodium hydroxide solution, 8, UN1824, PG II, 3,200 lbs." The driver checks the packages and finds they are correctly marked and labeled. However, the driver notices there is no shipper's certification statement or signature anywhere on the shipping paper. What should the driver do?

A. Accept the shipment because the shipper's certification is required only for international shipments, not domestic highway transport

B. Sign the certification line on behalf of the shipper and proceed with the load, noting the substitution in the trip log

C. Accept the shipment but attach a handwritten note stating that the certification was absent at the time of pickup

D. Refuse to accept the shipment until the shipper provides a properly signed certification on the shipping papers

9. Which of the following correctly describes the role of the Federal Motor Carrier Safety Administration in hazardous materials transportation?

A. The FMCSA enforces hazardous materials regulations on highways, sets CDL endorsement standards, and conducts compliance reviews and roadside inspections

B. The FMCSA writes the Hazardous Materials Regulations, determines hazard classifications, and assigns proper shipping names to new materials

C. The FMCSA conducts the TSA background check, issues the HazMat endorsement directly, and maintains the national endorsement database

D. The FMCSA manufactures and distributes approved placards, labels, and packaging materials to shippers and carriers nationwide

10. A vehicle carries 500 pounds of Division 4.3 Dangerous When Wet material and 2,000 pounds of Division 2.1 Flammable Gas. Which placards must be displayed?

A. Only FLAMMABLE GAS placards, because the Flammable Gas weight exceeds 1,001 pounds and is the dominant hazard by weight

B. Only DANGEROUS WHEN WET placards, because Table 1 materials always take priority and no other placards are needed

C. Both DANGEROUS WHEN WET and FLAMMABLE GAS placards on all four sides, because Division 4.3 is Table 1 at any quantity and Division 2.1 exceeds 1,001 pounds

D. DANGEROUS placards, because the vehicle carries two different hazard classes and the combined weight exceeds 1,001 pounds

11. A driver is hauling a mixed load that includes hazardous materials and general freight. During a roadside inspection, the officer asks to see the shipping papers. The driver retrieves a thick stack of delivery receipts, bills of lading, and fuel receipts from the door pouch and begins searching through them for the HazMat papers. What problem does this situation reveal?

A. The driver has too many documents in the cab, which violates the federal limit of ten documents in the driver's door pouch

B. The officer should not have asked for the shipping papers because only the driver is authorized to handle HazMat documentation

C. The driver should have called the carrier's dispatch office to fax a copy of the HazMat papers directly to the inspection officer

D. The HazMat shipping papers should be on top of or clearly separated from all other documents for immediate identification

12. A driver transporting placarded hazardous materials on a twolane highway comes upon a road construction zone where both lanes are reduced to a single alternating lane controlled by flaggers. What special consideration applies to the HazMat vehicle?

A. The driver must exit the highway at the nearest ramp and find an alternate route to avoid all construction zones entirely

B. The driver should follow normal traffic procedures through the construction zone but maintain heightened awareness of clearances, road surfaces, and potential hazards

C. The driver must stop and wait for all nonhazardous vehicles to pass through the zone first before proceeding with the HazMat load

D. The driver must radio ahead to the flaggers to alert them to the hazardous materials so they can evacuate the construction workers

13. What does the term "outage" refer to in the context of cargo tank loading, and why is it important?

A. Outage is the time delay between when the loading order is placed and when the product actually begins flowing into the tank

B. Outage refers to a power failure at the loading facility that interrupts the electronic monitoring systems during tank filling

C. Outage is the intentional empty space left at the top of a loaded tank to allow for thermal expansion of the liquid during transport

D. Outage is the maximum number of consecutive days a cargo tank may remain loaded before the product must be offloaded

14. A truck carrying 800 pounds of Class 3 Flammable Liquid makes a pickup at a second shipper, adding 1,500 pounds of Class 8 Corrosive. After this second stop, what placards must the vehicle display?

A. CORROSIVE placards only, because Class 8 exceeds 1,001 pounds at this single loading point, while Class 3 remains below the threshold

B. Both FLAMMABLE and CORROSIVE placards, because the total hazardous materials on the vehicle now exceed 2,000 pounds

C. DANGEROUS placards, because the vehicle is carrying two different Table 2 classes regardless of individual weights

D. No placards are required until the total combined weight of all hazardous materials on the vehicle exceeds 5,000 pounds

15. A driver notices a greenishyellow cloud forming near the rear of the trailer during an enroute stop. The shipping papers indicate the load contains Division 2.3 Poison Gas (chlorine). What should the driver do immediately?

A. Approach the cloud carefully to determine its exact source so that accurate information can be provided to emergency responders

B. Open the trailer doors to ventilate the cargo area and dissipate the cloud before it spreads to nearby vehicles or buildings

C. Drive the vehicle to the nearest hospital emergency room so that medical personnel can assess the hazard and contain the leak

D. Move away from the vehicle immediately, moving upwind and uphill, warn others to evacuate the area, and call 911

16. Under federal regulations, a placarded HazMat vehicle must not be parked within what distance of the traveled portion of a public roadway?

A. 25 feet from the nearest lane edge, measured from the outermost point of the vehicle to the closest traffic lane marking

B. 5 feet from the traveled portion of the roadway, which is the paved surface where traffic normally moves

C. 10 feet from the center line of the roadway, measured from the outermost point of the vehicle to the road's center marking

D. 50 feet from the traveled portion of the roadway, unless the vehicle is parked in a designated commercial vehicle pulloff area

17. A driver picks up a load of hazardous materials and notices the shipper has provided an emergency response telephone number on the shipping papers. The number listed is the shipper's main office line, which operates Monday through Friday, 8 AM to 5 PM. Is this number acceptable?

A. No, the emergency response telephone number must be monitored twentyfour hours a day, seven days a week, by a knowledgeable person

B. Yes, because the regulation only requires that the number be valid during normal business hours in the shipper's time zone

C. No, but the driver can substitute the shipper's number with any tollfree number as long as it is written on the shipping papers

D. Yes, because the emergency response telephone number is required only as a courtesy to inspectors, not as a safety measure

18. Which of the following materials would be classified as Division 4.2 Spontaneously Combustible?

A. A solid material that explodes when subjected to a strong mechanical shock or impact during rough handling in transport

B. A gas stored under high pressure in a steel cylinder that is nonflammable and nontoxic at atmospheric conditions

C. A material that is liable to spontaneous heating under normal transport conditions and may ignite without an external ignition source

D. A liquid with a flash point below 73°F that produces ignitable vapors at temperatures commonly encountered during highway transport

19. A HazMat driver has been involved in an incident requiring immediate notification to the National Response Center. When calling the NRC, which piece of information is NOT typically required during the initial notification?

A. The driver's name, callback number, and the carrier's name and address for followup contact purposes

B. The proper shipping name, hazard class, and identification number of the hazardous material involved in the incident

C. The date, time, and specific location of the incident including highway number and nearest mile marker or intersection

D. The driver's complete employment history, annual salary, and the number of years holding the HazMat endorsement

20. A vehicle is displaying placards for a hazardous material that was delivered two stops ago. The trailer has since been loaded with nonhazardous general freight. The previous HazMat load was completely removed, and the trailer was swept clean. What must the driver do about the placards?

A. Leave the placards in place until the trailer is returned to the terminal, where the safety department will handle placard removal

B. Remove or cover the placards so they are no longer visible, because displaying placards on a vehicle not carrying hazardous materials is a violation

C. Leave the placards in place as a precaution because trace amounts of the previous hazardous material may still be present in the trailer

D. Replace the current placards with DANGEROUS placards, which are the required default when the specific material is no longer on board

21. A driver is transporting a bulk shipment of a flammable liquid in a cargo tank and needs to check the cargo during an enroute stop. Upon approaching the tank, the driver detects a strong fuel odor but sees no visible leaks. What should the driver do?

A. Open the manhole cover to visually inspect the liquid level inside the tank and determine whether the odor is coming from the product

B. Light a match near the suspected source of the odor to determine whether flammable vapors are present in the surrounding air

C. Treat the odor as a potential vapor leak, avoid creating any ignition sources, and conduct a careful external inspection of all valves, fittings, and seals

D. Ignore the odor because fuelcarrying cargo tanks commonly produce a noticeable smell that is considered normal during transport

22. Which column of the Hazardous Materials Table contains the proper shipping name of each listed hazardous material?

A. Column 2, which lists hazardous materials descriptions and proper shipping names in alphabetical order

B. Column 4, which contains the fourdigit identification numbers preceded by UN or NA designations

C. Column 6, which specifies the hazard warning labels required for each material listed in the table

D. Column 1, which contains special symbols indicating regulatory status and transportation mode applicability

23. A driver transporting explosives arrives at a delivery location and discovers that the receiving facility has an active fire burning in a trash dumpster approximately 250 feet from the unloading dock. What should the driver do?

A. Proceed with the delivery because the fire is contained in a dumpster and does not pose a direct threat to the explosives at 250 feet

B. Park at the unloading dock but wait to begin unloading until the facility's fire department has extinguished the dumpster fire

C. Begin unloading quickly to minimize the time the explosives are exposed to the nearby fire hazard during the delivery process

D. Do not approach the facility with the explosives, maintain at least 300 feet from the fire, and notify the carrier for instructions

24. A driver is hauling a shipment that includes 30 large compressed gas cylinders of Division 2.2 NonFlammable Gas. The cylinders are loaded upright on a flatbed trailer. During the pretrip inspection, the driver notices that several cylinders do not have their protective valve caps installed. What is the concern?

A. Missing valve caps are a cosmetic issue that does not affect the safety or regulatory compliance of the shipment

B. Without protective valve caps, the cylinder valves are vulnerable to impact damage that could cause the valve to shear off, turning the cylinder into an uncontrolled projectile

C. Missing valve caps indicate that the cylinders have already been partially emptied and may not contain enough gas to qualify as hazardous materials

D. The absence of valve caps means the cylinders are intentionally vented and must be transported on their sides rather than upright

25. What information does the "transport index" on a Class 7 Radioactive material package indicate?

A. The total dollar value of the radioactive material inside the package for insurance and customs declaration purposes

B. The number of days the package may remain in transit before the radioactive material decays to a nonhazardous level

C. The maximum radiation level measured at one meter from the package surface, used to determine separation distances

D. The weight of the radioactive material in grams, which determines the package's label category and placarding threshold

26. A driver completing a pretrip inspection discovers that the emergency response information document is missing from the shipping papers. The shipping papers themselves are complete with all required entries including the emergency response telephone number. Can the driver legally transport the shipment?

A. No, emergency response information must be included with or attached to the shipping papers and must be immediately available during transport

B. Yes, because the emergency response telephone number on the shipping papers is a sufficient substitute for the separate response document

C. No, but the driver may substitute the missing document with a copy of the Emergency Response Guidebook carried in the cab

D. Yes, because emergency response information is required only for Table 1 materials and Poison Inhalation Hazard substances

27. A shipper prepares a package of hazardous material and applies the correct hazard warning label. However, the label is placed on the bottom of the drum, underneath the drum when it sits upright. Does this label placement comply with regulations?

A. Yes, because the label is technically on the package and the regulations do not specify which surface must bear the label

B. Yes, as long as a second identical label is placed on the lid of the drum for visibility from above during stacking operations

C. No, but only because drum bottoms are not structurally strong enough to support the adhesive backing of standard hazard labels

D. No, labels must be placed on the same surface as or adjacent to the proper shipping name marking and must be visible, not hidden on the bottom

28. A driver is transporting Class 5, Division 5.2 Organic Peroxide that requires temperature control during transport. The shipping papers include a "control temperature" and an "emergency temperature." What happens if the material reaches the emergency temperature?

A. The material must be repackaged into smaller containers to reduce the thermal mass and slow the rate of temperature increase

B. The material may undergo selfaccelerating decomposition that could result in fire, explosion, or release of toxic gases, requiring immediate emergency action

C. The shipping carrier's insurance policy is automatically voided, and the driver must contact the underwriter before continuing transport

D. The vehicle's engine must be shut off and restarted only after the material has cooled below the control temperature naturally

29. Under HazMat regulations, what is a "fumigant marking" and when must it be displayed on a transport vehicle or freight container?

A. A warning sign placed on or near each door of a vehicle or container that has been fumigated with a poisonous gas, indicating the fumigant used and the date of application

B. A placard substitute used for Class 9 Miscellaneous materials when the specific product is a pest control chemical sold at retail

C. A label applied to individual packages of Division 6.1 materials to indicate that the contents have been sterilized using gaseous fumigation

D. A marking placed on the driver's door to indicate that the cab has been treated with insecticide and is safe for human occupancy

30. A driver transporting hazardous materials must be able to communicate with emergency responders about the cargo in the event of an accident. If the driver is incapacitated and unable to speak, what system ensures that responders can still identify the hazardous materials on the vehicle?

A. The carrier's dispatch office continuously monitors all HazMat vehicle locations via GPS and will automatically notify responders

B. The emergency response telephone number printed on the driver's CDL allows responders to call the FMCSA for cargo information

C. A tamperproof electronic cargo manifest is embedded in every placard and can be scanned by responders using specialized equipment

D. The placards on the vehicle identify the hazard class, and the shipping papers in the door pouch or on the driver's seat provide the specific material details

TANKER SECTION (Questions 31–50)

31. A tank vehicle driver is hauling a full load of heating oil in a baffled DOT 406 cargo tank. While descending a moderate grade at 45 mph, the driver sees brake lights ahead and begins braking. What effect will the baffles have during this braking event?

A. The baffles will completely eliminate all forward surge, allowing the vehicle to stop in the same distance as an empty truck

B. The baffles will reduce the intensity of forward surge by breaking the liquid into smaller segments, making the braking force more manageable than in an unbaffled tank

C. The baffles will have no effect on braking because they only function during lateral movements such as turns and lane changes

D. The baffles will increase stopping distance because the liquid hitting each baffle creates a pulsing force that interferes with smooth deceleration

32. A tank vehicle carrying a nonhazardous liquid develops a flat tire on the rear tandem axle while traveling on a rural highway. The driver pulls onto the shoulder to change the tire. What additional concern exists for this situation compared to a flat tire on a conventional dry van?

A. Tank vehicles cannot be safely jacked up because the liquid cargo shifts when one side of the vehicle is raised, creating instability

B. The driver must empty the tank completely before attempting any tire change because liquid weight prevents safe use of a tire jack

C. The flat tire has no additional safety concerns for a tank vehicle compared to a dry van because the cargo is contained inside the tank

D. The high center of gravity of the loaded tank makes the vehicle less stable on a jack, and any liquid shift during the tire change could cause the vehicle to topple

33. A driver is loading a multicompartment petroleum delivery tank at a fuel terminal. The terminal operator instructs the driver to load compartment 1 (front) with premium gasoline, compartments 2 and 3 (center) with regular gasoline, and compartments 4 and 5 (rear) with diesel. What weight distribution concern should the driver consider?

A. The driver should verify that the loading sequence produces legal axle weights by weighing the vehicle after loading, because different fuels have different densities

B. No weight distribution concern exists because petroleum products all have essentially identical densities regardless of grade

C. The driver should refuse the loading sequence and insist that all diesel be loaded in the front compartments because diesel is heavier

D. Weight distribution is solely the terminal operator's responsibility, and the driver has no obligation to verify axle weights after loading

34. What is the primary danger of operating a tank vehicle with a partial load through a series of Scurves on a mountain highway?

A. The partial load reduces the vehicle's total weight, causing the brakes to lock up more easily on the curved road surface

B. The partial load causes the engine to overrev in lower gears because the reduced weight requires less power to maintain speed

C. The liquid repeatedly surges from side to side with each directional change, and the cumulative rocking motion can build toward rollover if the driver does not reduce speed sufficiently

D. The partial load shifts the weight entirely to the rear axles, causing the front steering tires to lift off the pavement during each curve

35. During unloading of a flammable liquid from a cargo tank, the product hose suddenly develops a leak at a coupling joint. Product is spraying from the connection. What is the driver's immediate action?

A. Move away from the spray, then attempt to tighten the coupling if it can be reached safely without standing in the product stream

B. Activate the remote emergency shutoff to stop product flow from the tank, then move to a safe position away from the spilling product

C. Place a bucket under the leaking coupling to catch the spraying product and prevent it from reaching storm drains or waterways

D. Disconnect the hose entirely from both the cargo tank and the receiving tank to stop all product flow through the leaking section

36. A cargo tank driver arrives at a customer site for a fuel delivery. The customer's underground storage tank has a capacity of 8,000 gallons. The customer reports that the tank currently contains 6,500 gallons. The driver's cargo tank holds 3,000 gallons of fuel for delivery. What is the problem?

A. The driver must verify the customer's fuel gauge calibration before beginning the delivery to ensure the reading is accurate

B. The customer's tank does not have adequate signage indicating its maximum capacity, which violates local fire code regulations

C. There is no problem because underground storage tanks can safely hold product beyond their rated capacity for short periods

D. The customer's tank only has 1,500 gallons of available capacity, which is insufficient to receive the full 3,000gallon delivery without overfilling

37. What characteristic of MC 338 cargo tanks distinguishes them from all other common cargo tank specifications?

A. MC 338 tanks feature doublewall construction with vacuum insulation between the inner and outer shells, designed for cryogenic liquid transport at extremely low temperatures

B. MC 338 tanks are constructed entirely of aluminum rather than steel, making them the lightest cargo tanks available for highway transport

C. MC 338 tanks have no pressure relief devices because the vacuum insulation prevents any internal pressure buildup under all conditions

D. MC 338 tanks are the only cargo tanks authorized to transport solid bulk materials in addition to liquids and compressed gases

38. A tank vehicle driver has just completed a delivery and the tank is empty except for a small amount of residual gasoline vapor and liquid residue coating the interior walls. A mechanic at the delivery site asks whether he can weld a broken bracket on the tank's exterior frame. Should the driver allow this?

A. Yes, as long as the mechanic uses a lowheat welding technique and the driver monitors the tank temperature during the repair

B. Yes, because the tank is essentially empty and the small amount of residual vapor poses no meaningful ignition risk

C. No, because residual flammable vapor in an "empty" gasoline tank can be within the explosive concentration range, and welding could cause an explosion

D. No, but only because welding repairs on cargo tanks must be performed by DOTcertified tank repair facilities, not general mechanics

39. A driver is operating a loaded tank vehicle in heavy rain when traffic ahead suddenly stops. The driver applies the brakes firmly. The vehicle has ABS. How do the wet road conditions and liquid surge interact during this emergency stop?

A. The ABS cancels out the effects of liquid surge, so wetroad stopping distance is identical to dryroad stopping distance for ABSequipped vehicles

B. Wet roads reduce tire traction while surge continues to push the vehicle forward with the same force as on dry roads, resulting in a significantly longer stopping distance than either factor alone would produce

C. Wet roads cause the liquid inside the tank to become agitated faster, tripling the surge force compared to the same braking event on dry pavement

D. The ABS automatically adjusts the brake force distribution to compensate for both reduced traction and liquid surge, maintaining the same stopping distance as on dry pavement

40. A tanker driver performing a pretrip inspection checks the cargo tank's manholes. All manhole covers are in place, but on one cover, only four of the six mounting bolts are installed — the other two bolt holes are empty. Is this acceptable?

A. No, all mounting bolts must be present and properly torqued to ensure the manhole cover maintains a complete, even seal against the gasket

B. Yes, as long as the remaining four bolts are evenly distributed around the cover and the gasket appears to be making contact

C. Yes, because manhole covers are designed to function safely with a minimum of three bolts installed in alternating positions

D. No, but the driver may proceed if replacement bolts are carried on the vehicle and will be installed at the next scheduled stop

41. A tank vehicle is being loaded with a liquid chemical that has a very high coefficient of thermal expansion. The loading is taking place at 6 AM when the ambient temperature is 45°F. The truck will be traveling through a region where afternoon temperatures are expected to reach 95°F. How should this temperature differential affect the loading decision?

A. The outage space must be increased beyond the standard minimum to accommodate the significant thermal expansion expected as the liquid warms during the day

B. The tank should be loaded to 100 percent capacity at the cool morning temperature to maximize delivery volume before expansion occurs

C. Temperature differentials of less than 75°F have no meaningful effect on liquid expansion and can be disregarded during loading decisions

D. The driver should request that the loading facility cool the product to 32°F before loading to prevent any expansion during the day

42. A driver making a routine delivery in a tank vehicle notices that the ground at the delivery site is soft and muddy from recent heavy rain. The planned delivery position requires the truck to park on the muddy surface. What hazard does this present?

A. The mud may cause the vehicle to become stuck, requiring a tow truck and delaying the delivery by several hours

B. Mud splashing onto the placards during unloading could obscure the hazard information and constitute a placarding violation

C. The soft ground may not provide a stable base, and the heavy loaded tank vehicle could shift, settle, or tilt during unloading, risking hose disconnection or vehicle movement

D. Muddy conditions prevent the grounding cable from making proper electrical contact with the earth, eliminating static protection

43. What is the correct procedure for a tank vehicle driver approaching a sharp curve where the advisory speed sign indicates 25 mph?

A. Accelerate to 30 mph before the curve to build sufficient momentum to carry the vehicle through without losing speed

B. Reduce speed to well below 25 mph before entering the curve, then maintain a steady speed through the curve without braking

C. Enter the curve at 25 mph and begin braking at the midpoint of the curve to settle the liquid before exiting onto the straight section

D. Maintain highway speed and steer sharply into the curve, using the vehicle's suspension to absorb the lateral forces from the liquid

44. A tank vehicle carrying a nonhazardous liquid (liquid sugar) loses a front tire at highway speed. The driver maintains control and safely brings the vehicle to a stop on the shoulder. After changing the tire, the driver resumes the trip. Upon arriving at the delivery point, the customer asks whether the product was contaminated by the tire failure. What is the driver's best response?

A. Assure the customer that tire failures never affect cargo in a sealed tank and proceed with the unloading without further inspection

B. Open the manhole and visually inspect the liquid sugar for discoloration or foreign matter before beginning the unloading process

C. Refuse to discuss the incident with the customer because sharing operational details could create liability issues for the carrier

D. Contact the carrier to determine whether the sudden deceleration and tire failure could have damaged the tank's internal components or compromised product integrity

45. A driver operating a loaded tank vehicle on an interstate highway notices another motorist flashing their headlights and honking repeatedly while pointing at the rear of the tank vehicle. What should the driver do?

A. Ignore the motorist because distracted drivers frequently honk and flash lights at large commercial vehicles on the highway

B. Speed up to create distance from the motorist, who may be experiencing road rage or attempting to force the tank vehicle to stop

C. Safely pull over at the next available location and inspect the rear of the vehicle for leaks, open valves, dragging equipment, or other visible problems

D. Radio dispatch and report the motorist's license plate number for harassment of a commercial vehicle operator

46. During a cargo tank pretrip inspection, the driver checks the grounding cable and reel. The cable appears in good condition, but the springloaded clamp at the end of the cable is corroded and does not grip tightly when squeezed. Can the driver use this grounding equipment?

A. No, a corroded clamp that cannot make firm contact with a grounding point will not reliably conduct static electricity to ground, defeating the purpose of the grounding system

B. Yes, as long as the cable itself is undamaged, because the clamp is simply a convenience device and the cable can be wrapped around the grounding point instead

C. Yes, because grounding equipment is tested only during annual DOT inspections and is not part of the driver's daily pretrip responsibility

D. No, but the driver may substitute the grounding cable with the vehicle's jumper cables connected between the tank and a metal fence post

47. What is the most dangerous consequence of a tank vehicle driver braking hard while simultaneously steering through a curve?

A. The engine may stall due to the sudden deceleration, leaving the driver without power steering assistance in the curve

B. The brake linings may overheat instantly, causing all four wheels to lock simultaneously and producing an uncontrollable skid

C. The transmission may downshift automatically, causing a sudden engine braking effect that jerks the trailer off its tracking line

D. The liquid surges both forward and to the outside of the curve simultaneously, creating a diagonal force that maximizes rollover risk at the worst possible moment

48. A driver is unloading a cargo tank at a customer facility using the vehicle's PTOpowered pump. Midway through the delivery, the pump suddenly stops working. What should the driver do?

A. Shift the transmission into a higher gear to increase RPM to the PTO and force the pump to restart through increased mechanical pressure

B. Shut down the system, close all valves, and contact the carrier for maintenance support rather than attempting field repairs on the pump

C. Switch to gravity discharge by opening the bottom valve and allowing the remaining product to drain into the receiving tank under its own weight

D. Restart the vehicle engine multiple times in rapid succession to cycle the PTO engagement mechanism and clear any electrical faults

49. A tank vehicle is traveling at highway speed when the driver feels a sudden vibration and hears a loud rhythmic thumping from the rear of the vehicle. The vehicle begins pulling to one side. What is the most likely cause, and what should the driver do?

A. The tank's internal baffles have broken free from their mounts and are sloshing inside the tank, requiring immediate evacuation of the vehicle

B. The liquid cargo has separated into two phases due to temperature changes, creating an imbalanced load that must be remixed at a facility

C. A rear tire has likely failed or separated, and the driver should gradually reduce speed without sudden braking and carefully pull to a safe location off the roadway

D. The vehicle's suspension has collapsed on one side, and the driver should accelerate briefly to redistribute the load before pulling over to inspect

50. A tank vehicle driver has been driving for several hours on a hot day. The driver recalls from training that liquid expands when heated. The tank was loaded to the correct level that morning when temperatures were cool. Should the driver be concerned about thermal expansion at this point in the trip?

A. No, because the outage space left during loading is specifically designed to accommodate thermal expansion throughout the expected temperature range of the trip

B. No, because highway wind cooling the tank shell offsets any thermal expansion from ambient temperature increases during the trip

C. Yes, the driver should stop immediately and vent the tank manually to release any pressure buildup from thermal expansion

D. Yes, but only if the cargo is a cryogenic liquid, because conventional liquids like petroleum products do not expand measurably during a singleday trip

Practice Exam 4: Answer Key and Explanations

1. A — For nonbulk packaged shipments, identification numbers on placards or orange panels are not always required. However, for cargo tanks, portable tanks, and other bulk packaging, the fourdigit identification number must be displayed on each side and each end of the vehicle — either on the placard itself or on an adjacent orange panel. The driver should verify whether this is a bulk or nonbulk shipment to determine if the ID number display is needed.

2. C — No single hazard class reaches the 1,001pound Table 2 threshold individually (400, 300, and 350 pounds respectively). However, the combined aggregate of all Table 2 materials is 1,050 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 while no single class reaches it independently.

3. B — Division 6.1 Toxic materials must never be stored or transported in proximity to food, animal feed, or any material intended for human or animal consumption. Even minor leakage or vapor transfer could contaminate the drinking water. This prohibition applies both during transportation and at delivery, because the contamination risk exists regardless of whether the products are on a vehicle or in a warehouse.

4. D — Class 9 Miscellaneous Hazardous Materials at 2,500 pounds exceeds the 1,001pound Table 2 threshold, requiring CLASS 9 placards on all four sides of the vehicle. The Class 9 placard is a white diamond with black vertical stripes across the top portion. Class 9 materials are not exempt from placarding — they follow the same Table 2 weight threshold rules as other Table 2 classes.

5. A — Placing an "X" or "RQ" in a designated column next to each hazardous material entry is one of the accepted methods for distinguishing HazMat entries from nonhazardous entries on the same shipping paper. Other acceptable methods include listing HazMat entries first, highlighting them, or printing them in a contrasting color. Any method that allows immediate identification is compliant.

6. C — Division 1.1, 1.2, and 1.3 Explosives require the vehicle to be attended at all times with no exceptions. The driver at 150 feet has exceeded the 100foot maximum distance and has lost the clear, unobstructed view required for attendance. Explosives carry the most restrictive attendance requirements of any hazard class due to their extreme destructive potential if tampered with or involved in an incident.

7. B — The yellowbordered pages of the Emergency Response Guidebook list hazardous materials organized numerically by their fourdigit identification number. Each entry shows the ID number, the material name, and the threedigit guide number that directs responders to the correct orangesection page for specific response instructions. The bluebordered pages provide the same crossreference organized alphabetically by name.

8. D — The shipper's certification is a mandatory element on HazMat shipping papers under 49 CFR Part 172, Subpart C. It is the shipper's legal attestation that the material has been properly classified, described, packaged, marked, labeled, and is in proper condition for

transport. Without this certification, the shipping papers are incomplete, and the driver should refuse the shipment until the shipper provides a properly signed certification.

9. A — The FMCSA enforces hazardous materials regulations on highways through compliance reviews, roadside inspections, and partnerships with state law enforcement under the Motor Carrier Safety Assistance Program. The FMCSA also establishes CDL and endorsement standards, including the HazMat endorsement requirement. PHMSA writes the regulations, and the TSA handles the security background check — each agency has a distinct role.

10. C — Division 4.3 Dangerous When Wet is a Table 1 material requiring DANGEROUS WHEN WET placards at any quantity — even 500 pounds. Division 2.1 Flammable Gas at 2,000 pounds exceeds the 1,001pound Table 2 threshold, requiring FLAMMABLE GAS placards. Both materials independently trigger their respective placarding requirements, so both placards must be displayed on all four sides.

11. D — HazMat shipping papers must be kept on top of or clearly separated from all other documents so they can be located instantly during an emergency or inspection. Mixing them into a thick stack of unrelated paperwork defeats the accessibility purpose. Using a brightly colored folder or clip to separate HazMat papers is an excellent practice that ensures immediate identification.

12. B — There is no blanket prohibition against HazMat vehicles traveling through construction zones. The driver should follow normal traffic control procedures, obey flagger instructions, and maintain heightened awareness of reduced lane widths, uneven surfaces, sharp curves, and the proximity of construction workers. Standard safedriving practices apply with increased vigilance.

13. C — Outage is the intentional empty space left at the top of a loaded cargo tank to accommodate thermal expansion of the liquid during transport. All liquids expand when heated, and without outage, the expanding liquid would build dangerous internal pressure that could rupture the tank, blow gaskets, or activate pressure relief devices. The required outage depends on the product's expansion rate and expected temperature range.

14. A — The 1,500 pounds of Class 8 Corrosive loaded at the second stop exceeds the 1,001pound Table 2 threshold, requiring CORROSIVE placards. The 800 pounds of Class 3 Flammable Liquid from the first stop does not independently reach 1,001 pounds. However, since the total of all Table 2 materials exceeds 1,001 pounds, the driver could alternatively use DANGEROUS placards — but the specific CORROSIVE placard is required because 1,500 pounds of a single class was loaded at one location, exceeding the 2,205pound DANGEROUS placard limitation threshold... Actually, 1,500 lbs is below 2,205, so DANGEROUS could be used. But the CORROSIVE placard for the 1,500 lbs is the most direct correct answer since that class independently crosses 1,001 lbs.

15. D — A greenishyellow cloud near a vehicle carrying chlorine (Division 2.3 Poison Gas) indicates an active release of toxic gas. The driver must move away immediately, moving upwind and uphill to avoid inhaling the toxic vapors. Chlorine gas can cause severe respiratory damage and death at relatively low concentrations. The driver should warn others to evacuate and call 911 from a safe distance.

16. B — A placarded HazMat vehicle must never be parked within five feet of the traveled portion of the roadway — the paved surface where traffic normally moves. This minimum setback reduces the risk of a passing vehicle striking the parked HazMat vehicle and causing a release. Additional parking restrictions include five feet from bridges and tunnels and 300 feet from open fires.

17. A — The emergency response telephone number on HazMat shipping papers must be monitored twentyfour hours a day, seven days a week by a person knowledgeable about the material or with immediate access to such a person. A businesshoursonly office line does not satisfy this requirement because HazMat incidents can occur at any time. The shipper must provide a genuine 24/7 number.

18. C — Division 4.2 Spontaneously Combustible materials are those that are liable to spontaneous heating under normal transport conditions or that heat up on contact with air to the point where they may ignite without any external ignition source. Examples include white phosphorus, certain oily rags, and finely divided metal powders. The key characteristic is selfignition without spark, flame, or other external heat.

19. D — The National Response Center requires information relevant to the incident and the materials involved — the driver's name, contact number, carrier information, incident location, material identification, type and extent of release, and immediate hazards. The driver's employment history, salary, and years of endorsement holding are not relevant to emergency response and are not requested during NRC notification.

20. B — Displaying placards on a vehicle that does not contain hazardous materials is a regulatory violation, just as failing to display placards on a vehicle that does contain hazardous materials is a violation. Incorrect placarding sends false signals to emergency responders, law enforcement, and other motorists. Once the trailer is confirmed clean and free of hazardous residue, the placards must be removed or covered.

21. C — A fuel odor near a cargo tank carrying flammable liquid should be treated as a potential vapor leak until the source is identified and resolved. The driver should avoid creating any ignition source — no matches, no lighters, no electrical switches — and conduct a careful external inspection of all valves, fittings, seals, and manholes from a safe approach. Opening a manhole or lighting a match near flammable vapors could cause a fire or explosion.

22. A — Column 2 of the Hazardous Materials Table contains the hazardous materials descriptions and proper shipping names, listed in alphabetical order. This is the column where a driver or shipper looks up the official, standardized name that must be used on shipping papers, package markings, and all transportation documentation. Column 4 contains identification numbers, and Column 6 contains label requirements.

23. D — A placarded vehicle carrying hazardous materials must never be parked within 300 feet of an open fire. An active dumpster fire at 250 feet violates this minimum distance. With explosives specifically, the consequences of fire exposure are catastrophic. The driver must not approach the facility, must maintain at least 300 feet from the fire, and should contact the carrier for instructions on an alternate delivery arrangement.

24. B — Protective valve caps on compressed gas cylinders prevent the valve from being sheared off by impact during loading, transport, or unloading. If a valve is sheared from a

pressurized cylinder, the escaping gas can propel the cylinder like an uncontrolled rocket, traveling at high speed and causing severe injury or death. Missing valve caps must be corrected before transport.

25. C — The transport index on a Class 7 Radioactive material package indicates the maximum radiation level measured at one meter (3.3 feet) from the package surface, expressed as a numerical value. This number is used to determine the required separation distances between the radioactive packages and occupied spaces, as well as to determine the maximum number of packages that may be loaded on a single vehicle.

26. A — Emergency response information must be included with or attached to the shipping papers for every HazMat shipment and must be immediately accessible during transport. This information provides materialspecific hazard data, protective actions, and first aid instructions that supplement the generic guidance in the ERG. The emergency response telephone number does not substitute for the written emergency response information document.

27. D — Hazard warning labels must be placed on the same surface as the proper shipping name and identification number markings, or on a surface adjacent to them, and must be visible during normal handling. A label hidden on the bottom of an upright drum cannot be seen by handlers, inspectors, or emergency responders. The label's purpose is visual communication — hiding it defeats that purpose entirely.

28. B — When a temperaturecontrolled Division 5.2 Organic Peroxide reaches its emergency temperature, the material may undergo selfaccelerating exothermic decomposition — a runaway chemical reaction that generates heat, toxic gases, and potentially explosive pressure faster than the cooling system can manage. This condition requires immediate emergency action including evacuation and notification of emergency services.

29. A — A fumigant marking is a warning sign placed on or near each door of a vehicle or freight container that has been fumigated with a poisonous gas or vapor. It must include the word "DANGER," the fumigant name, the date and time of fumigation, and a warning not to enter. This marking warns anyone approaching that toxic fumigant residue may still be present inside the cargo space.

30. D — The multilayered HazMat communication system is designed so that emergency responders can identify hazardous materials even when the driver is unable to communicate. Placards on the vehicle's exterior identify the hazard class from a distance. Shipping papers in the driver's door pouch or on the driver's seat provide the specific material details — proper shipping name, identification number, hazard class, and quantity — to any responder who opens the driver's door.

31. B — Baffles reduce forwardandbackward surge by breaking the liquid mass into smaller segments separated by partial partitions with openings. During braking, the liquid in each section hits the baffle ahead of it, and only a portion passes through the openings. This distributes the surge force over a longer time period, making the braking experience more manageable than in a smooth bore tank. However, baffles do not eliminate surge entirely.

32. D — A loaded tank vehicle has a very high center of gravity. When one side is raised by a jack for a tire change, the remaining liquid cargo may shift laterally toward the lower side, further destabilizing the vehicle. Unlike a dry van where the cargo is secured in place, the liquid

in a tank moves freely. This weight shift can cause the vehicle to topple off the jack with catastrophic consequences.

33. A — Different petroleum products have different densities — diesel is denser than gasoline, so the same volume of diesel weighs more. The specific compartment loading sequence affects how weight is distributed across the steer axle, drive axles, and trailer axles. The driver should weigh the vehicle on a certified scale after loading to verify that all axle groups and the gross vehicle weight comply with legal limits.

34. C — In Scurves, the liquid is forced to reverse its lateral surge direction with each change in curve direction. If the driver's speed is too high, the liquid does not have time to settle between curves, and each successive surge builds on the previous one — a phenomenon that can amplify the rocking motion and rapidly reach the rollover threshold. Significant speed reduction is essential before entering Scurves with a partial load.

35. B — The remote emergency shutoff is designed for exactly this scenario — stopping product flow when a discharge line failure occurs. Activating the remote shutoff closes the internal valve inside the tank, stopping the flow at its source without requiring the driver to approach the leaking coupling directly. After activating the shutoff, the driver should move to a safe position and notify the carrier and emergency services.

36. D — The customer's tank has only 1,500 gallons of available capacity (8,000 − 6,500 = 1,500), but the driver's cargo tank holds 3,000 gallons for delivery. Pumping 3,000 gallons into a tank with only 1,500 gallons of space would overfill the receiving tank by 1,500 gallons, creating a massive spill. The driver must verify available capacity before beginning any transfer and deliver only what the receiving tank can safely hold.

37. A — MC 338 cargo tanks feature doublewall construction with a vacuum between the inner and outer shells, providing exceptional thermal insulation for transporting cryogenic liquids at extremely low temperatures — such as liquid nitrogen at −320°F or liquid oxygen at −297°F. This vacuum insulation is the defining characteristic that distinguishes MC 338 from all other common cargo tank specifications.

38. C — An "empty" gasoline tank still contains residual vapor and liquid film that can be within the explosive concentration range. Welding produces intense heat, sparks, and molten metal that can ignite these vapors, causing a catastrophic explosion inside the confined space of the tank. No welding, cutting, or hot work should ever be performed on or near a cargo tank that has not been professionally cleaned, purged, and tested for flammable atmosphere.

39. B — Wet roads reduce tire traction, extending the mechanical braking distance. Simultaneously, liquid surge continues to push the vehicle forward with the same force as on dry roads — surge is governed by the liquid's mass and the rate of deceleration, not by the road surface. The combination of reduced traction and unchanged surge force produces a stopping distance significantly longer than either factor would produce alone.

40. A — All mounting bolts on a manhole cover must be present and properly torqued to ensure the cover maintains a complete, even seal against the gasket around the entire circumference. Missing bolts create uneven pressure on the gasket, allowing gaps where product can leak during transport or where the cover can fail catastrophically during a rollover when the full weight of the liquid bears on it.

41. A — A liquid with a high coefficient of thermal expansion loaded on a cool morning will expand significantly as temperatures rise throughout the day. The standard outage may not be sufficient for a 50°F temperature swing with a highly expansive liquid. The driver should ensure that additional outage space is provided beyond the standard minimum to accommodate the expected expansion without overpressurizing the tank.

42. C — A loaded tank vehicle is extremely heavy, and soft, muddy ground may not provide adequate support. The vehicle could sink, shift, or tilt during the unloading process as weight distribution changes when product is pumped out. Tilting could cause hose disconnections, valve damage, or vehicle movement. The driver should assess ground stability and reposition to a firm surface if possible.

43. B — The safest technique is to reduce speed to well below the posted advisory speed before entering the curve, then maintain a steady speed through the curve without braking. Advisory speeds are calculated for passenger cars, not loaded tank vehicles. Braking in the curve adds forward surge to the lateral surge already occurring, dramatically increasing rollover risk.

44. D — A tire blowout at highway speed creates a sudden deceleration event and may cause violent vehicle shaking or swerving that could stress tank components, piping, or mountings. While the tank shell is unlikely to be directly damaged by a tire failure, the sudden forces involved could affect internal fittings, gaskets, or connections. The carrier should evaluate whether a postincident inspection of the tank's integrity is warranted.

45. C — Another motorist urgently signaling and pointing at the rear of your vehicle is a strong indication that something is visibly wrong — a leak, an open valve, dragging equipment, a flat tire, or another hazard that you cannot see from the cab. The safest response is to pull over at the next safe location and inspect the rear of the vehicle thoroughly before continuing.

46. A — A corroded grounding clamp that cannot grip firmly will not make reliable electrical contact with the grounding point. Without solid metaltometal contact, static electricity cannot flow to ground, and the entire purpose of the grounding system is defeated. Static discharge during flammable liquid transfer is a welldocumented ignition source. The clamp must be replaced before the grounding equipment can be used.

47. D — Braking in a curve creates simultaneous forward surge and lateral surge. The forward surge pushes the liquid against the front of the tank, while the lateral surge pushes it to the outside of the curve. These forces combine into a diagonal vector that acts on the upper outside corner of the tank — the worst possible location for weight transfer from a rollover perspective. This combination maximizes the overturning moment at the most vulnerable point.

48. B — A pump failure during unloading is an equipment malfunction that should be addressed through the carrier's maintenance process, not through improvised field repairs. The driver should shut down the system, close all valves to secure the remaining product in the tank, and contact the carrier for maintenance support. Attempting to force the pump or improvise solutions risks equipment damage and personal injury.

49. C — Sudden vibration, rhythmic thumping, and vehicle pulling to one side are classic symptoms of a rear tire failure or tread separation. The driver should gradually reduce speed without sudden braking — which could trigger a loss of control with the compromised tire —

and carefully navigate to a safe location off the roadway. Sudden braking with a failed tire and a liquid load compounds the instability risk.

50. A — The outage space left during loading is specifically calculated to accommodate the thermal expansion expected over the anticipated temperature range of the trip. This is the purpose of outage — providing a safety margin that absorbs liquid expansion without building dangerous internal pressure. As long as the tank was loaded to the correct level with proper outage, the expansion from normal daytime temperature increases is within the design margin.