

Haulage Road Test (Answers follow test.)

1. Single lane roads should be a) as wide, b) twice as wide as the truck.
2. A two lane roadway should be at least: 1 1/2, 2 1/2, 3 1/2, 4 1/2 times as wide as the truck.
3. Wider roads (are/are not) needed on curves.
4. Which of the following is the least dangerous place to have a sharp curve in the road? a) A bridge, b) The crest of a hill, c) At the bottom of long sustained downgrade
5. Intersections positioned near hill crests or sharp curves are generally safe. True/False
6. Wetting down roads can create dangerous driving conditions. True/False
7. Road dust is what type of concern? a) Safety concern, b) Health concern, c) both a & b.
8. Berms: a) act as a wall to stop trucks that are going off the road. b) are good for helping the driver know where the edge of the road is, c) are required where drop-offs are of sufficient grade or depth to endanger persons in equipment.
9. Berms may be made of a) concrete, b) large boulders, c) loose material between lanes.
10. A berm's height must be equal to the wheel height of the largest vehicle using the road. True/False
11. To be most effective, the tire should initially sink into the berm. True/False
12. The side of the berm facing the road must not be too steep. True/False
13. Berms are a big maintenance item. True/False
14. Boulders are not recommended as berm materials. True/False
15. A well-constructed guardrail is better than a berm. True/False
16. Center (or straddle) berms and escape lanes can be used instead of berms. True/False
17. Some important considerations in road construction are the _____ and _____ distances over grades and around curves, the ability to carry the _____, the ability to shed - _____, and location away from pit walls to prevent danger from _____.
18. A road designer should try to reduce the angle of grades. True/False
19. Curves should be banked ____% to ____ %
20. Drainage should be on the a) inside or b) outside of the curve.
21. Traffic signs are needed on mine roads. True/False
22. Haul road maintenance is costly. True/False
23. Operator training is required to use runaway berms. True/False
24. A good maximum grade would be 20 %, 15 %, 10%, 7.5%, 5 %, 2.5%.
25. If the grade is over 10 %, escape facilities are needed. True/False
26. Berms made of boulders are easy for a truck to push over the edge. True/False
27. Tarping of trucks is not a dangerous operation. True/False
28. In order to minimize surface haulage accidents, drivers of trucks that are being loaded should be told which of the following. a) Stay in the truck, or the truck will not be loaded. b) When they can leave the truck and where to stay if they must leave the trucks while being loaded or waiting to be loaded. c) Clean the windows and perform other needed safety checks while the truck is waiting to be loaded or is being loaded.
29. Backup alarms are a good way to make sure no one gets run over. True/False
30. Properly working parking brakes are needed on mine vehicles. True/False
31. MSHA requires mine operators to establish workable rules and warning signs to indicate unusually or potentially dangerous road conditions. True/False
32. Road signs should be non-uniform in appearance so drivers can see them better. True/False

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33. Training in traffic patterns and their changes are unimportant in small operations. True/False
34. Drivers should anticipate changes in road conditions whenever the weather changes. True/False
35. Dry loose gravel provides a stable, skid-resistant road surface. True/False
36. Road bumps damage equipment, but are not a safety concern. True/False
37. Muddy or slushy (snow mixed with water) roads are even more dangerous than either snow or ice alone. True/False
38. The width of a tire has little to do with its skid resistance. True/False
39. An overloaded vehicle has which of the following performance characteristics? a) Tendency to sway on corners. b) Poor response to steering. c) Increased potential for tipping. d) Increased instability during sudden stops. e) Increased stopping distances. f) Increased potential for brake failure on slopes. g) Increased potential for overheating of engine. g) Increased potential for overheating and blowout of tires. h) Increased road maintenance requirements. i) Increased potential for damage to axles and wheels when driving over holes or bumps.
40. Communication between vehicles on mine roads is discouraged because it distracts the driver. True/False
41. Mine operators should establish adequate and appropriate _____ indicating any unusual or potentially dangerous road conditions.
42. Signs should be _____ in appearance and location and must be clearly posted, that is, placed at locations where they can be observed.
43. Mine operators should provide _____ to truck drivers to become familiar with traffic patterns and any changes in these patterns.
44. Equipment operators should be alert to and anticipate changes in road conditions, especially with changes in _____ conditions.
45. Equipment operators should obey traffic rules and take the necessary precautions to respond to _____ signs.

Answers to Haul Road Test

1. (b)
2. (3 ½)
3. They are needed on curves, especially where there is 2-way traffic.
4. (a) a bridge
5. False – They have sight distances that are too short.
6. True - Excessive amounts of water can cause the road to become muddy and very slippery.
7. (c) Both a & b. - Road dust restricts visibility, a safety hazard, and it can be high in crystalline silica that could cause silicosis, a lung disease.
8. (b) & (c) – They give a driver a tactile method of feeling the edge of the road (like the “rumble strips” on highways. They limit or restrain a vehicle’s passage off the roadway.
9. All correct, but “a” and “b” are not preferred materials. Gravel is best.
10. False – Berms must be mid-axle height of largest vehicle traveling the road.
11. True - The berm then raises the tire tending to return it to the roadway.
12. False - The side facing the road must be steep to minimize any ramping effect.
13. True - Berms require continual attention to maintain adequate width and height.
14. True - Large boulders can injure the driver and small ones may slide over the edge.
15. True- Properly constructed guardrails should be used in place of berms where the installation is permanent.
16. False - center or straddle berms and escape lanes do not replace edge berms.
17. Some important considerations in road construction are the stopping and sight distances over grades and around curves, the ability to carry the weight, the ability to shed water, and location away from pitwalls to prevent danger from rock falls.
18. True
19. 1 to 2 %
20. Inside
21. True - Stop signs, right-of-way signs, grade signs, slippery surface, and upcoming ramp signs are among those that should be used to help prevent accidents.
22. False - Good maintenance on haul roads saves money on equipment and tire wear and also eliminates costs associated with accidents that result from poorly maintained roads.
23. True
24. 7.5 %
25. True
26. True - Because of this danger, it is a good idea to set them in 27 feet or more.
27. False - The fall danger is significant and automatic tarpers should be considered to reduce the likelihood of fall fatalities.
28. (a) and (b). While leaving the truck can be extremely dangerous, clearly designated times to leave the truck and locations to stand can reduce danger.
29. False - While the law requires them, people become immune to them. There are new alarms coming out that warn the driver of the pedestrian rather than warning the pedestrian of the truck. These have great potential to reduce vehicle/pedestrian accidents.
30. True - Parked vehicles rolling over drivers or other pedestrians is an important cause of mine injuries and fatalities.
31. True - See 56/57.9100

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32. False - Signs should be uniform in appearance and clearly posted at locations where they can be observed.
 33. False - To avoid accidents, people that drive on mine property must know where and what to expect.
 34. True - Slippery muddy conditions and washouts among other hazards are much more likely to occur on unimproved roads such as those used by many of the mines to transport ore, materials and personnel.
 35. False - Gravel moves under a vehicle's tires and often results in failure of the steering to respond or in sideways skidding of the vehicle's rear-end. Avoid high speeds when driving on gravel roads, especially on turns. Be prepared for continually changing road conditions. Material spills on paved roads also cause vehicles to lose steering and skid sideways and should be cleaned up immediately.
 36. False - Bumpy roads destroy equipment, and even small bumps in series can result in the vehicle's steering failing to respond or in causing the vehicle's rear-end to skid sideways. Roads must be graded regularly to maintain smooth, safe driving and drivers must continually be on the lookout for such hazards.
 37. True - Mud and slush not only cause the vehicle to hydroplane (float) where the wheels lose traction and the steering becomes unresponsive, but tend to pull the vehicle into the oncoming traffic lane or off the edge of the road.
 38. False - When the road is water covered, cars and pickup trucks with wide low-tread tires tend to hydroplane making the vehicle's steering unresponsive even at relatively low speeds. This condition is magnified when the road is covered with a mixture of snow and water (slush). In general the narrower the vehicle's tires (within limits set by the vehicle's weight) and the deeper the tire's tread, the less tendency there is for the vehicle to hydroplane. Other factors in tread design also contribute to the ability of a tire to shed water and remain in contact with the road.
 39. All true
 40. False - Communication and rules about when to let other drivers know your position are very important to safe travel through the mine site, especially where heavy loads are carried by haulage trucks and loaders. However, drivers must use extreme caution so that the distractions from using communication devices do not result in increased accident potential.
 41. Signs
 42. Uniform
 43. Training
 44. Weather
 45. Warning
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