Mine Safety Quiz

Title: Rigging for Lifting

1. Wire rope slings must be removed from service if they have kinks. True__, False__
2. Chain slings must be removed from service if the have excessive wear. True__, False__
3. The eyes of wire ropes may be formed with wire rope clips. True__, False__
4. Rigging equipment should be inspected for defects by a competent person: a)___ prior to use on each shift, b)___ once each month, c)___ once each year___
5. Rigging equipment is damaged if it is overloaded. True__, False__
6. Eyes in slings may be formed by knots in the rope. True__, False__
7. All chains and slings should be marked as to their capacities, proof tested and marked, or discarded. True__, False__
8. A person making a heavy lift should consult a rigging chart. True__, False__
9. It is OK to walk under a load if the rigging equipment has been inspected. True/False
10. A deformed rigging fitting should be removed from service. True__, False__
11. A hardened bolt should be used to pin a shackle. True__, False__
12. Allowable wear to a shackle before replacement should be less than a)___5 %, b)___10%, c)___15 %, d)___20%, or e)___25% of any sectional dimension.
13. Reasons for removing a fitting from service include a sharp surface nick, a surface gouge, a crack. True/False
14. Lay in a wire rope is equal to one complete revolution of a strand. True, False__
15. Two broken wires within one wire rope diameter of a fitting is cause for removal from service. True__, False__
16. Wire ropes should be removed from service if there are more than a total of 10 broken wires in one rope lay, or more than 5 broken wires in a strand in one rope lay. True/False
17. A grade 8 (80) chain should not be subjected to temperatures greater than a)___250°F, b)___500°F, c)___1000°F, d)___2000°F.
18. Discoloration is an indication that a chain has been overheated. True___, False___
19. Synthetic web slings a)___ will withstand temperatures up to 194° F and cannot be steam cleaned, b)___ will withstand temperatures up to 244 °F.
20. Slings made from 6 x 19 and 6 x 37 independent wire rope core is rated to operate at temperatures as low as a)___-10 °F, b)___0°F, c)___-40 °F, d)___-60 °F e)___80 °F.
21. OSHA requires that a synthetic web sling be permanently marked to show the name & trademark of the manufacturer, the manufacturer’s code or stock number, rated loads for hitches, the type of synthetic web material. True/False
22. OSHA requires alloy chain slings to have permanently affixed identification stating size, grade, rated load, angle load based on reach, number of legs, and sling manufacturer. True/False
23. Steel core slings should never be used at temperatures greater than a)___200°F, b)___300°F, c)___400°F, d)___500°F.
24. Synthetic slings should never be used at temperatures greater than a)___100°F, b)___200°F, c)___300°F, d)___400°F.
25. Basket hitch capacity must be reduced if the diameter of the basket is less than 20 times the diameter of the rope. True__, False__
26. The choker capacity is further reduced if the angle of choke is less than a)___60 °, b)___90 °, c)___120 °, d)___150 °.
27. The smaller the angle between a sling leg and horizontal, the less stress on the leg. True___, False___
28. A good sling angle to aim for is: a)___30°, b)___45°, c)___60°, d)___90°.
29. If one leg of a sling is at least as long as the distance between the points where it is fastened to the load, the angle of the sling will be at least: a)___30°, b)___45°, c)___60°, d)___90°.
30. At a 30° angle between sling legs and horizontal, the sling will carry about a)___1/2 times, b)___same, c)___twice, d)___4 times the weight of a single leg when both legs are vertical.
31. At a 60° angle between sling legs and horizontal, the sling will carry a)___1/2 times, b)___same, c)___150%, or d)___170%, e)___twice the weight of a single leg when both legs are vertical.
32. At a 90° angle between sling legs and horizontal, the sling will carry a)___1/2 times, b)___same, c)___150%, or d)___170%, e)___twice the weight of a single leg when both legs are vertical.
33. It is important to make the choker as loose as possible. True__, False__
34. Blocks should be used to prevent angles less than 30° on a choker hitch. True___, False___

35. Basket hitch capacity is a)___1/2 times, b)___same, c)___150%, or d)___170%, e___twice the weight of a single leg when both legs are vertical.

36. Four leg slings have the same lifting capacity as triple leg slings. True___, False___

37. A triple leg sling carries 50% more than a double leg sling if the center of gravity is in in the center of the connection points and the legs are adjusted properly (share load equally). True___, False___

38. A screw pin shackle is the best type of shackle to use for permanent installations. True___, False___

39. The pin on a screw pin shackle must be tightened before each use. True___, False___

40. A round pin shackle is good for side loads. True___, False___

41. When the included angle is greater than 90 degrees, the sling should be connected to the hoist rope using a)___a hook, b)___a shackle or link.

42. Malleable cast iron wire rope clips must not be used. True___, False___

43. L/H is: a)___The length of a sling leg divided by the height from a horizontal line between the connection points and the point where the legs come together, b)___the load multiplier, c)___should never exceed 2.0, d)___is 2.0 for a 30° angle between the sling leg and the horizontal, e)___is the load angle factor, which when multiplied by the load on each leg with both legs vertical (90° angle with horizontal), gives the load on each leg for the particular sling angle.

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