



**Basic Rigging Safety Lecture Test
(M_004)**



Name (print): _____ **Date:** _____ **Score:** _____

Signature: _____

Each question is worth 1 point unless otherwise noted. A passing score is 52 out of a possible 65.
Return the completed quiz to **Karen Kiselycznyk** (safety_training@lle.rochester.edu, Rm. 2212).

- 1) If an activity seems unsafe
 - a) Address the concern after the job is done
 - b) The system must be safe since it is at LLE
 - c) I just haven't been trained yet
 - d) Stop work and address the concern
- 2) Only perform activities for which you are qualified
 - a) True
 - b) False
- 3) Qualification for the use of overhead cranes requires additional training starting at;
 - a) 0 lbs
 - b) 120 lbs
 - c) 500 lbs
 - d) 20000 lbs
- 4) Basic rigging training is required starting at a payload weight of
 - a) 0 lbs
 - b) 120 lbs
 - c) 500 lbs
 - d) 20000 lbs
- 5) Advanced rigging training is required starting at a payload weight of
 - a) 0 lbs
 - b) 120 lbs
 - c) 500 lbs
 - d) 20000 lbs
- 6) What is the correct order of execution of the items listed below? (7pts)

- a) Attach payload to a load hook
 - b) Attach the rigging gear
 - c) Prep work
 - d) Move the payload

- e) Remove the rigging gear
 - f) Secure the payload
 - g) Detach the payload from a hook
- 7) It is acceptable to slightly exceed load ratings because the safety factors are so high.
 - a) True
 - b) False
- 8) Rated and non-rated rigging hardware are interchangeable for overhead hoisting.
 - a) True
 - b) False

- M_004 Basic Rigging Safety Lecture Test S-SA-M-014 Rev D
For use with M_004 Basic Rigging Safety Lecture S-SA-M-006 Rev E

- 23) Angular lifts with plain eye bolts should never exceed how many degrees
- a) 0°
 - b) 30°
 - c) 45°
 - d) 60°
- 24) Angular lifts with shouldered eye bolts should never exceed how many degrees
- a) 0°
 - b) 30°
 - c) 45°
 - d) 60°
- 25) Eye bolts are marked with a Working Load Limit.
- a) True
 - b) False
- 26) Which shackles are not approved for use at LLE.
- a) Round Pin Shackles
 - b) Screw Pin Shackles
 - c) Bolt-Type Shackles
- 27) Shackles are marked with a Working Load Limit.
- a) True
 - b) False
- 28) The load rating for a shackle is not reduced when side loaded.
- a) True
 - b) False
- 29) Shackle screw pins shall be fully engaged and hand tightened.
- a) True
 - b) False
- 30) Multiple sling legs should be applied to the pin on a shackle.
- a) True
 - b) False
- 31) Never have the pin against the live line in a choker.
- a) True
 - b) False
- 32) For two slings on a shackle, what is the maximum permitted included angle that does not reduce the WLL?
- a) 60°
 - b) 90°
 - c) 120°
 - d) 180°
- 33) Which statement about load hooks is the most correct?
- a) Always inspect the hook and latch before using
 - b) Insure there is no excessive wear in the saddle of the hook
 - c) Never use a latch that is distorted or bent
 - d) Always make sure spring will force the latch against the tip of the hook
 - e) All of the above
- 34) Which statement about load hooks is the most correct?
- a) Always make sure hook supports the load
 - b) The latch must never support the load
 - c) Latches are intended to retain loose sling or devices under slack conditions
 - d) Latches are not intended to be an anti-fouling device
 - e) All of the above

- 42) A payload is being lifted with using a vertical hitch with the following components; Plain machinery eye bolt (WLL 5200 lb), synthetic sling (vertical WLL 10000 lb), Hoist (2T). What is the maximum payload?
- a) 4000 lb
 - b) 5200 lb
 - c) 10000 lb
 - d) Not enough information or not safe
- 43) A payload is being lifted with a sling in basket hitch configuration with the following components; synthetic sling (basket WLL 10000 lb), and Hoist (4T). What is the maximum payload?
- a) 4000 lb
 - b) 8000 lb
 - c) 10000 lb
 - d) Not enough information or not safe
- 44) A payload is being lifted using a 2 leg bridle hitch assembled with the following individual components; Plain machinery eye bolts (WLL 5200 lb), synthetic slings (vertical WLL 1000 lb), Shackles (WLL 4T), and Hoist (5T). What is the maximum payload?
- a) 1000 lb
 - b) 2600 lb
 - c) 5200 lb
 - d) 8000 lb
 - e) 10000 lb
 - f) Not enough information or not safe
- 45) A payload is being lifted using a 2 leg bridle hitch assembled with the following individual components; Plain machinery eye bolts (WLL 5200 lb), synthetic slings (vertical WLL 2000 lb), Shackles (WLL 4T), and Hoist (5T). The sling angle is 30°. What is the maximum payload?
- a) 2000 lb
 - b) 2600 lb
 - c) 5200 lb
 - d) 8000 lb
 - e) 10000 lb
 - f) Not enough information or not safe
- 46) A payload is being lifted using a 2 leg bridle hitch assembled with the following individual components; hoist rings (WLL 6000 lb), synthetic slings (vertical WLL 10000 lb), Shackles (WLL 4T), and Hoist (5T). The sling angle is 30°. What is the maximum payload?
- a) 3000 lb
 - b) 6000 lb
 - c) 7500 lb
 - d) 8000 lb
 - e) 10000 lb
 - f) Not enough information or not safe
- 47) A payload is being lifted using a 4 leg bridle hitch assembled with the following individual components; hoist rings (WLL 5000 lb), synthetic slings (vertical WLL 10000 lb), Shackles (WLL 4T), and Hoist (5T). The sling angle is 30°. What is the maximum payload?
- a) 3000 lb
 - b) 5000 lb
 - c) 7500 lb
 - d) 8000 lb
 - e) 10000 lb
 - f) Not enough information or not safe

The next five questions use the following hardware;

A 5000lb load is to be rigged using a 2 leg bridle hitch using with a 10 ton overhead crane. The hardware available is (2) 5/8" hoist rings (WLL of 4000 lb), (2) 2" nylon web slings (vertical WLL 6400 lb), (2) 5/8" shackles (WLL 7165 lb), and (1) 3/4 " shackle (WLL 10,471 lb).

- 48) Can this load be rigged safely?
- a) Not enough information
 - b) No
 - c) Yes
 - d) Only if you use proper hand signals
- 49) Given the current configuration, you find the angle created with the load using the two straps equals 30° from horizontal. What is the sling tension for each leg? (hint $\sin 30^\circ = .5$)
- a) 10,000
 - b) 2,500
 - c) 5,000
 - d) Not enough information
- 50) Which set of rigging gear needs to be changed to safely lift the payload and maintain a sling angle of 30° ?
- a) Nylon web slings
 - b) $3/4$ " shackle
 - c) $5/8$ " hoist rings
 - d) $5/8$ " shackles
- 51) You find that the $3/4$ " shackle does not properly fit on the overhead crane hook. What do you do?
- a) use it anyway
 - b) give up and go home
 - c) hook the straps together
 - d) Find another shackle with adequate load rating that will properly fit on the hook
- 52) The $5/8$ " hoist ring has an effective thread length of 0.7". The hoist ring is being attached to an aluminum payload. Is it safe?
- a) Yes
 - b) No