

## Seamanship questions

### Question 1 (1 Mark)

Choosing the proper length of anchor line will depend substantially on water depth and type of line.

type of line and nature of the bottom.

type of anchor and the amount of swinging room.

water depth, type of anchor, type of line and available swinging room.

### Question 2 (3 Marks)

Match each definition to the correct item below.

- |                            |   |
|----------------------------|---|
| 1. An overhand knot.       | a. Used to join two lines of equal size.                  |
| 2. A figure of eight knot. | b. Used to prevent a rope running through a pulley.       |
| 3. A reef knot.            | c. Used to make a line fast to a spar.                    |
| 4. A clove hitch.          | d. Used to temporarily hold the weight of a mooring line. |
| 5. A stopper hitch.        | e. Used to join two lines of unequal size together.       |
| 6. Sheet bend.             | f. Used to prevent the end of a rope unlaying.            |

### Question 3 (1 Mark)

What is the best knot to tie in the end of a rope to stop it running through a pulley?

A clove hitch.

A reef knot.

A figure of eight.

A bowline.

### Question 4 (1 Mark)

The safe working load of a 12mm polyester rope whose Factor of Safety is 2.5, would be approximately:

30 kg.

360 kg.

3600 kg.

60 kg.

### Question 5 (2 Marks)

Describe the internal signs of deterioration in a fibre rope.

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**Question 6 (1 Mark)**

Before being stowed away, all ropes should be:

Flaked out.  
Cleaned thoroughly.  
Coiled loosely.  
Washed in sea water

**Question 7 (1 Mark)**

When a synthetic rope is reaching breaking point, it:

reduces diameter drastically.  
tends to unlay slowly.  
tends to make a creaking sound.  
tends to vibrate rapidly.

**Question 8 (1 Mark)**

Wire rope can be made more flexible by:

building the strands around a wire heart.  
building the strands around a fibre heart.  
increasing the diameter of each strand.  
oiling the wire more frequently.

**Question 9 (1 Mark)**

The best method of determining if a vessel is dragging anchor is to note:

any change in the tautness of the anchor chain.  
changes to bearings of fixed objects on shore.  
the amount of line paid out.  
how much the vessel sheers while at anchor.

**Question 10 (2 Marks)**

Explain why it is preferable to use chain between the anchor and the anchor rope.

**Question 11 (1 Mark)**

When weighing anchor your anchor picks up the bight of a heavy mooring wire that has been dumped. You clear your anchor by:

first passing a rope bight around the wire and securing the end on board. The anchor is then lowered, and the rope bight cut.  
lowering a stage to water level and sending at least two hands in harnesses to cut the wire clear.  
first lowering the anchor to water level and securing it with a rope bight. A hand is then sent to clear it from there.  
first securing the anchor with a rope bight, and then running full astern on engines until the wire is drawn clear.

**Question 12 (2 Marks)**

List four factors which should be amongst those taken into consideration when choosing a safe anchorage.

**Question 13 (1 Mark)**

The usefulness of a slip rope is to:

- cast off a vessel without outside help.
- secure a vessel between two buoys.
- slip a vessel away quietly.
- avoid kinks in a rope.

**Question 14 (1 Mark)**

Some ropes are made up of three strands twisted together. What are these ropes called?

- Nylon ropes.
- Braided ropes.
- Laid ropes.
- Silver ropes.

**Question 15 (1 Mark)**

When working with rope, you should never:

- stand near the bight of rope.
- stand behind the bight of a rope.
- stand in front of the bight of a rope.
- stand in the bight of a rope.

**Question 16 (1 Mark)**

Natural fibre rope is:

- more affected by chemicals than synthetic rope.
- affected by chemicals, but synthetic rope is not.
- less affected by chemicals than synthetic rope.
- unaffected by chemicals, while synthetic rope is affected.

**Question 17 (2 Marks)**

Describe the internal signs of deterioration in a fibre rope.

**Question 18 (1 Mark)**

The safe working load of a 12mm nylon rope whose Factor of Safety is 3, would be approximately:

- 1296 kg.
- 432 kg.
- 72 kg.
- 36 kg.

**Question 19 (1 Mark)**

What is the best knot to tie in the end of a rope to stop it running through a pulley?

- A figure of eight.
- A clove hitch.
- A reef knot.
- A bowline.

**Question 20 (3 Marks)**

Match each definition to the correct item below.

- |                            |   |
|----------------------------|---|
| 1. An overhand knot.       | a. Used to temporarily hold the weight of a mooring line. |
| 2. A figure of eight knot. | b. Used to prevent a rope running through a pulley.       |
| 3. A reef knot.            | c. Used to join two lines of equal size.                  |
| 4. A clove hitch.          | d. Used to prevent the end of a rope unlaying.            |
| 5. A stopper hitch.        | e. Used to join two lines of unequal size together.       |
| 6. Sheet bend.             | f. Used to make a line fast to a spar.                    |

**Question 21 (1 Mark)**

The C.Q.R. anchor has:

- greater holding power than the Admiralty Pattern anchor.
- the same holding power as the Stockless anchor.
- less holding power than the Stockless anchor.
- less holding power than the Admiralty Pattern anchor.

**Question 22 (1 Mark)**

The term 'cordage' is used for:

- fibre ropes only.
- fibre and wire ropes.
- synthetic ropes only.
- wire ropes only.

**Question 23 (1 Mark)**

When working with rope, you should never:

- stand in front of the bight of a rope.
- stand near the bight of rope.
- stand in the bight of a rope.
- stand behind the bight of a rope.

**Question 24 (1 Mark)**

Right handed cordage below 48mm should be stood on the end which will allow the rope to be taken off:

- left handed from the inside.
- left handed from the outside.
- right handed from the outside.
- right handed from the inside.

**Question 25 (2 Marks)**

Describe the items looked for in an external examination of a wire rope.

**Question 26 (1 Mark)**

The safe working load of a 20mm wire rope whose Factor of Safety is 8, would be approximately:

- 3200 kg.
- 3000 kg.
- 1280 kg.
- 5000 kg.

**Question 27 (1 Mark)**

What is the purpose of tying a figure of eight knot in the end of a rope?

- To make it easy to throw.
- To stop it from kinking.
- To stop it running through a pulley.
- To prevent it unravelling.

**Question 28 (3 Marks)**

Match each definition to the correct item below.

- |                            |   |
|----------------------------|---|
| 1. An overhand knot.       | a. Used to prevent a rope running through a pulley.       |
| 2. A figure of eight knot. | b. Used to join two lines of equal size.                  |
| 3. A reef knot.            | c. Used to temporarily hold the weight of a mooring line. |
| 4. A clove hitch.          | d. Used to make a line fast to a spar.                    |
| 5. A stopper hitch.        | e. Used to join two lines of unequal size together.       |
| 6. Sheet bend.             | f. Used to prevent the end of a rope unlaying.            |

**Question 29 (1 Mark)**

End for ending of ropes is recommended:

- to meet survey requirements.
- when using the rope for another purpose.
- within six months of an annual survey.
- to equalise wear over the length of the rope.

**Question 30 (1 Mark)**

A hawser laid rope is:

- 3 x 3 stranded right hand ropes laid up left handed.
- 4 strands laid up right handed over a central heart.
- 3 strands laid up right handed.
- 3 strands laid up left handed.

**Question 31 (1 Mark)**

A kinked rope is:

- weaker at that point.
- unable to pass through a block.
- stronger at that point.
- unaffected by the kink.

**Question 32 (2 Marks)**

Describe the external signs of deterioration in a fibre rope.

**Question 33 (1 Mark)**

The safe working load of a 12mm manila rope whose Factor of Safety is 1, would be approximately:

- 1728 kg.
- 288 kg.
- 144 kg.
- 24 kg.

**Question 34 (1 Mark)**

What is the best knot to tie in the end of a rope to stop it running through a pulley?

- A bowline.
- A reef knot.
- A figure of eight.
- A clove hitch.

**Question 35 (3 Marks)**

Match each definition to the correct item below.

- |                                       |   |
|---------------------------------------|---|
| 1. A bowline on the bight.            | a. Can be used to prevent the end of a rope unlaying. |
| 2. A double sheet bend.               | b. Can be used as a makeshift bosun's chair.          |
| 3. A clove hitch.                     | c. Used to join two ropes of unequal size.            |
| 4. A reef knot.                       | d. Used to make a line fast to a spar or ring.        |
| 5. An over hand knot.                 | e. Used to join two lines of equal size.              |
| 6. A round turn and two half hitches. | f. Used to make a line fast to a spar.                |

**Question 36 (1 Mark)**

Why is it preferable to have a length of chain in between the anchor and the anchor line:

- to keep the anchor stock parallel to the bottom.
- to stop the line from floating.
- to prevent the anchor fouling on rocks.
- to reduce wear on the line when retrieving it.

**Question 37 (2 Marks)**

You are manoeuvring at night in a port area where there are a number of large vessels at anchor. What visual indications would there be if one of these vessels weighed anchor.

**Question 38 (1 Mark)**

The usefulness of a slip rope is to:

- cast off a vessel without outside help.
- secure a vessel between two buoys.
- avoid kinks in a rope.
- slip a vessel away quietly.

**Question 39(1 Mark)**

Before being stowed away, natural fibre ropes should be:

- Washed with salt water.
- Dried out.
- Coiled tightly.
- Brushed down.

**Question 40 (1 Mark)**

Wire rope can be made more flexible by:

- oiling the wire more frequently.
- building the strands around a wire heart.
- building the strands around a fibre heart.
- increasing the diameter of each strand.

**Question 41 (1 Mark)**

When a fibre rope is reaching breaking point, it:

- tends to unlay slowly.
- reduces diameter drastically.
- tends to vibrate rapidly.
- tends to make a creaking sound.

**Question 42 (2 Marks)**

Describe the external signs of deterioration in a fibre rope.

**Question 43 (1 Mark)**

The safe working load of a 25mm wire rope whose Factor of Safety is 8, would be approximately:

- 10 Tonnes.
- 5 Tonnes.
- 3 Tonnes.
- 1 Tonne.

**Question 44 (1 Mark)**

Which of the following knots is used to attach two different sized lines together?

- A granny knot.
- A square knot.
- A carrick bend.
- A sheet bend.

**Question 45 (3 Marks)**

Match each definition to the correct item below.

- |                                       |   |
|---------------------------------------|---|
| 1. Sheet bend.                        | a. Used to make a line fast to a spar.                |
| 2. Sheep shank.                       | b. Used to temporarily shorten a rope.                |
| 3. A Bowline.                         | c. Used to join two lines of unequal size together.   |
| 4. A round turn and two half hitches. | d. Used to make a line fast to a spar or ring.        |
| 5. A Reef knot.                       | e. Used for joining two lines of equal size.          |
| 6. A clove hitch.                     | f. Used to form a temporary eye in the end of a rope. |

**Question 46 (1 Mark)**

The best method of determining if a vessel is dragging anchor is to note:

- the amount of line paid out.
- changes to bearings of fixed objects on shore.
- how much the vessel sheers while at anchor.
- any change in the tautness of the anchor chain.

**Question 47 (1 Mark)**

The usefulness of a slip rope is to:

- avoid kinks in a rope.
- cast off a vessel without outside help.
- secure a vessel between two buoys.
- slip a vessel away quietly.

**Question 48 (1 Mark)**

The term 'cordage' is used for:

- wire ropes only.
- fibre and wire ropes.
- fibre ropes only.
- synthetic ropes only.

**Question 49 (1 Mark)**

Shock loads:

- will part only fibre ropes which would normally safely handle the same steady load.
- can part any rope which would normally safely handle the same steady load.
- will part only synthetic ropes which would normally safely handle the same steady load.
- will part only wire ropes which would normally safely handle the same steady load.



**Question 50 (1 Mark)**

Before being stowed away, natural fibre ropes should be:

- Washed with salt water.
- Dried out.
- Brushed down.
- Coiled tightly.

**Question 51 (2 Marks)**

Describe the items looked for in an internal examination of a wire rope.

**Question 52 (1 Mark)**

What is the strength of a rope that has been spliced as compared with the strength of a similar unspliced rope?

- About one quarter of the strength of the unspliced rope.
- About the same as the strength of the unspliced rope.
- About half the strength of the unspliced rope.
- About three quarters of the strength of the unspliced rope.

**Question 53 (1 Mark)**

Which splice should you use in order to make a permanent loop in the end of a line?

- A short splice.
- An eye splice.
- A back splice.
- A long splice.

**Question 54 (3 Marks)**

Match each definition to the correct item below.

- |                                       |   |
|---------------------------------------|---|
| 1. A bowline on the bight.            | a. Used to join two lines of equal size.              |
| 2. A double sheet bend.               | b. Can be used as a makeshift bosun's chair.          |
| 3. A clove hitch.                     | c. Used to make a line fast to a spar or ring.        |
| 4. A reef knot.                       | d. Used to make a line fast to a spar.                |
| 5. An over hand knot.                 | e. Can be used to prevent the end of a rope unlaying. |
| 6. A round turn and two half hitches. | f. Used to join two ropes of unequal size.            |

**Question 55 (1 Mark)**

When anchoring in deep water, the anchor should be:

- allowed to run free while going astern.
- veered out for a few metres before letting go.
- walked out to the waterline before letting go.
- allowed to surge using the windlass brake.

**Question 56 (1 Mark)**

When berthing alongside in favourable conditions, generally the most useful line to put ashore first is the:

- head rope.
- breast line.
- stern line.
- spring.

**Question 57 (1 Mark)**

Building a wire rope around a fibre heart, while increasing the number of wires in each strand and reducing their individual thickness will:

- make the wire more flexible.
- make the wire more durable.
- reduce the need for maintenance.
- make the wire less flexible.

**Question 58 (1 Mark)**

When a fibre rope is reaching breaking point, it:

- reduces diameter drastically.
- tends to vibrate rapidly.
- tends to make a creaking sound.
- tends to unlay slowly.

**Question 59 (1 Mark)**

Excessive heat will:

- not affect fibre ropes.
- improve the strength of fibre ropes.
- make fibre ropes dry and brittle.
- cause fibre ropes to rot.

**Question 60 (1 Mark)**

The safe working load of a 12mm polyester rope whose Factor of Safety is 2.5, would be approximately:

- 30 kg.
- 3600 kg.
- 360 kg.
- 60 kg.

**Question 61 (1 Mark)**

Which splice should you use in order to make a permanent loop in the end of a line?

- An eye splice.
- A long splice.
- A back splice.
- A short splice.

**Question 62 (3 Marks)**

Match each definition to the correct item below.

- |                            |   |
|----------------------------|---|
| 1. An overhand knot.       | a. Used to temporarily hold the weight of a mooring line. |
| 2. A figure of eight knot. | b. Used to join two lines of equal size.                  |
| 3. A reef knot.            | c. Used to make a line fast to a spar.                    |
| 4. A clove hitch.          | d. Used to join two lines of unequal size together.       |
| 5. A stopper hitch.        | e. Used to prevent a rope running through a pulley.       |
| 6. Sheet bend.             | f. Used to prevent the end of a rope unlaying.            |

**Question 63.**

Use diagrams to help explain the items below. What are the advantages of each of these moors?

an open moor

a standing moor

a running moor

a Baltic moor

a Mediterranean moor

Answer.

- a) Lying to a single anchor. Large swinging area used for changes of wind/tide.
- b) Steam past anchor position. Drop first anchor and fall back on slack cable. Drop second anchor. Then heave on first, slack on second, to midway point. Reduces swing room.
- c) Drop first anchor while steaming slow and slack away. pass the anchor position, then drop second anchor. Heave on first, slack second until midway them. Reduces swing area and allows for more precise positioning.
- d) A mooring rope is led from the stern and lashed to the (single) anchor cable about 1/2 ship-length from the hawse. If rope is heaved, ship lies across the wind. Providing a lee on one side. Moderate weather only and has to be altered if wind/tide changes.
- e) Stern-on to a berth, with sternlines out and lying to one or both anchor. Big reduction on amount of wharf used-good for working with barges (use both sides).

**Question 64.**

List the checks you would carry out when checking a hatch for watertight integrity.

Answer.

- a) Check gasket condition
- b) Secure cleats/dogs evenly
- c) Look upwards from inside the space for signs of daylight
- d) Carry out hose-test and check for leaks

**Question 65.**

Describe with the use of diagrams two types of anchors and discuss their advantages and disadvantages.

Answer.

Admiralty - Good holding but hard to stow, requires dismantling or folding to stow.

Danforth/CQR - Efficient for small craft and easy to stow.

Stockless - Efficient for large vessels, used with chain cable. Easily stowed in hawse recesses.

**Question 66.**

List the checks you would carry out prior to entering a river bar in heavy weather.

Answer.

Checks for heavy weather precautions. Plus - avoid wind against tide timing. Look for area of least broken waters. Adjust speed to avoid pooping/broaching.

**Question 67.**

Calculate the "breaking strain" and "safe working load" of the following:

- a) 10mm Manila rope
- b) 10mm Polypropylene rope
- c) 18mm Polyester rope (terylene)
- d) 8mm Polyamide rope (nylon)
- e) 6mm strand/24 wire

Answer.		BS	SWL
a)	$\frac{2D^2}{300}$	0.67	0.11
b)	$\frac{3D^2}{300}$	1.00	0.17
c)	$\frac{4D^2}{300}$	4.32	0.72
d)	$\frac{5D^2}{300}$	1.07	0.18
e)	$\frac{20D^2}{500}$	1.44	0.24

**Question 68** Explain what type of rope (cordage) you would use for the following purposes. Why?

- a) Anchoring
- b) Mooring lines
- c) Dinghy painter
- d) Lashing heavy cargo
- e) Towing

Answer.

- a) Chain tail to add to anchor weight and cope with chafe on bottom. Terylene warp.
- b) Polyprop. Not damaged by immersion. Floats while running out and recovering. Not expensive.
- c) Nylon. Good SWL/size, stretches to absorb shock- loads.
- d) Chains with lever tensioners.
- e) Nylon. Strong and can stretch to absorb shock-loads.

**Question 69.** List the precautions you would take when loading or discharging heavy loads on a small vessel alongside a wharf.

Answer.

- a) Sufficient GM (load transfers t derrick-head)
- b) Take up slack on moorings
- c) Plumb the load accurately before lifting
- d) Second man to signal winch operator

