

## **DAY SKIPPER AND LOCAL WATERS SKIPPER PRACTICAL AND ORAL GENERAL KNOWLEDGE QUESTIONS**

*This list has been devised to give candidates a feel for the range of questions that could be asked during the practical and oral examination. The list is not exhaustive. Candidates should be prepared to answer questions on any topic covered in the syllabus.*

### **1. KNOTS AND ROPEWORK**

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- 1.1 Demonstrate each of the following knots and describe when you would use them:
- figure of eight
  - clove hitch
  - round turn and two half hitches
  - reef knot
  - single and double sheet bend
  - rolling hitch
  - bowline
- 1.2 Demonstrate how you would heave a line
- 1.3 Demonstrate how you would lasso a buoy
- 1.4 What kind of rope would you select for a towline? Why?

### **2. CHARTWORK AND NAVIGATION**

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- 2.1 How many metres in the international nautical mile?
- 2.2 What is a meridian?
- 2.3 Plot a fix using your hand bearing compass.
- 2.4 Plot a fix using a GPS.
- 2.5 Do you use your deviation table for your ship's compass when you take a bearing with a hand bearing compass? Explain. What precautions should you take to ensure that the bearings you take with your hand bearing compass are not affected by deviation?
- 2.6 Check your steering compass deviation using a transit.
- 2.7 Why is it impractical to have a deviation card for a hand bearing compass? What checks should you do on your boat to determine whether bearings taken with a hand bearing compass are likely to be affected by deviation?



- 2.8 When fixing position with a hand bearing compass, what would a good angle of cut be for two charted objects? What would be a good angle of cut for three charted objects? What angles of cut should be avoided?
- 2.9 You see the following symbols next to a lighthouse. What do they mean?
- a. Fl. 10s34m25M
  - b. Oc. 7s47m15M
- 2.10 Where would you look up a chart symbol? Demonstrate by looking up this chart symbol.
- 2.11 The charted depth of a rock is given as 1,5. Why is it underlined? What does this mean?
- 2.12 What is the correct nautical meaning of the word "heading"? A hand held GPS typically gives you a "heading." Is this the same thing? Explain.

### 3. GPS

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*Please remember that you are expected to have a GPS or chart plotter on board for your practical exam. A hand held GPS is acceptable. Your GPS should be loaded with local landmarks as waypoints and with a fog route back into your marina.*

- 3.1 Describe very briefly how GPS works. How many satellites do you need to get a proper fix?
- 3.2 You have a simple hand held GPS. You notice that it gives you a "heading." The heading jumps all over the show when you stand still but settles down to a steady reading if you walk in a straight line. Explain what is happening.
- 3.3 On what horizontal datum does the GPS system naturally operate? Are all charts on the same horizontal datum? Explain?
- 3.4 Are all South African charts on the same horizontal datum? What is going on here?
- 3.5 Demonstrate on your GPS how you would find the range and bearing of any waypoint.
- 3.6 Demonstrate how you would use a route in your GPS.
- 3.7 Demonstrate how you would follow a fog route back into port.
- 3.8 Demonstrate how you would use a GPS to get back to a MOB.

#### **4. PILOTAGE**

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- 4.1 What is a transit?
- 4.2 What are clearing bearings and how would you use them?

#### **5. INSTRUMENTS**

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- 5.1 How would you check the calibration of your log?
- 5.2 How would you check the calibration of your depth sounder?
- 5.3 What is a lead line? What would you use for a lead line on this boat?
- 5.4 Demonstrate the use of your hand bearing compass. How would you use it at night?

#### **6. TIDES**

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- 6.1 If high tide was at 0900 this morning, what time would you expect high tide to be tomorrow morning?
- 6.2 What are spring tides? What are neap tides?
- 6.3 What causes the tides? What causes spring and neap tides? Explain.
- 6.4 What phases of the moon are associated with neap tides and spring tides? Explain.
- 6.5 What does LAT mean?
- 6.6 What is the chart datum for charted depths in SA?
- 6.7 Pull out a local chart. Where on the chart does it give you tidal information? What does this information mean?
- 6.8 What is a tidal diamond, and how would you use it? Explain.
- 6.9 In SA, are the tides earlier or later each day? If so, by about how much?
- 6.10 You are in SA and you see a full moon. What time would you expect low tide and high tide to be tomorrow? Would you expect spring or neap tides?
- 6.11 Where can you get tide tables that show not just the times of the tides but also the heights of the tides?

## **7. VHF RADIO**

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- 7.1 Demonstrate how you switch on your VHF radio and adjust the squelch.
- 7.2 How do you make a Mayday call on a VHF radio without DSC? Recite the Mayday call.
- 7.3 How do you make a Mayday call on a VHF radio with DSC
- 7.4 What is the distress and calling channel on VHF?
- 7.5 When should you use the distress and calling channel?
- 7.6 Demonstrate your command of the phonetic alphabet by spelling out your name or your yacht's name (or some arbitrary word that the examiner chooses) in the phonetic alphabet.
- 7.7 Demonstrate your command of the phonetic alphabet by recognising a word or sequence of words that the examiner spells out to you in the phonetic alphabet.
- 7.8 Your mast broke so your VHF aerial is in the water and you have lost VHF communication. What phone numbers do you have programmed into your cellular phone to help in such an emergency? Show me on your cellular phone.

## **8. COLREGS AND IALA | BOAT HANDLING UNDER POWER**

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- 8.1 What is prop walk?
- 8.2 Does your yacht (or the yacht on which you are being examined) exhibit prop walk? Which way does your stern swing when you give a short burst of astern power?
- 8.3 Demonstrate bringing your yacht on and off your moorings under power.
- 8.4 Demonstrate bringing your yacht alongside a jetty under power
- 8.5 Demonstrate springing off a jetty under power.

## **9. SAILING**

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- 9.1 Demonstrate hoisting and dropping your sails.
- 9.2 Your engine fails on the way out of harbour. Which sail would you get out first, and why? Demonstrate.
- 9.3 Your engine failed and you hoisted your foresail quickly. You are now sailing on your foresail. Demonstrate how you hoist your main. You may not use your engine (it failed remember).
- 9.4 Demonstrate reefing and shaking out a reef.
- 9.5 Demonstrate tacking and gybing, giving appropriate commands to your crew.
- 9.6 Brief your crew on the correct way to gybe.
- 9.7 Brief your crew on the risks and dangers associated with an accidental gybe.
- 9.8 Demonstrate putting on a gybe preventer.
- 9.9 Demonstrate sailing on different points of sailing, setting your sails appropriately.
- 9.10 Explain how you use the telltales on your foresail and mainsail to set the sail correctly.
- 9.11 Demonstrate heaving to.
- 9.12 Demonstrate picking up a buoy under sail.

## **10. MAN OVERBOARD**

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- 10.1 What precautions could you take to prevent a MOB incident from occurring?
- 10.2 Demonstrate picking up a MOB. You may use your engine
- 10.3 Describe the alternative ways you could use to get the MOB on board.

## **11. WEATHER**

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### **Synoptic Charts and Weather Systems**

- 11.1 What is an isobar?
- 11.2 Which way do the winds go around a low pressure system in the Southern Hemisphere?
- 11.3 What are the early signs of an approaching low pressure system with a cold front?
- 11.4 What is the wind direction ahead of the cold front and after the cold front passes.
- 11.5 What do we mean when we say the "wind veers" or the "wind backs"?
- 11.6 Looking at today's synoptic chart, what can you say about the expected weather over the next day or two?

### **SA Weather Patterns – Local Knowledge**

- 11.7 What are the two major currents that affect the South African coast line? Which one is cold and which one is warm?
- 11.8 Under what conditions is the Agulhas current particularly dangerous? What do you do to avoid this danger?
- 11.9 What synoptic condition leads to a burg wind? Explain.
- 11.10 You are on the West Coast and a coastal low is passing. What dangerous weather condition must you be alert for?
- 11.11 You are off the coast of KZN and a coastal low is expected. What dangerous weather condition must you be alert for?
- 11.12 What synoptic condition leads to a strong SE wind? Explain
- 11.13 What is "advection fog?" Where in SA does it occur most often? Why?
- 11.14 Where do coastal lows develop in southern Africa? How do they typically move and what weather do they bring?

### **Effects of Land and Sea**

- 11.15 Explain land breezes. Under what conditions do they occur? At what time of day do they occur?



11.16 Explain sea breezes. Under what conditions do they occur? At what time of day do they occur?

### **Weather Forecasts**

11.17 Where can you get official weather forecasts?

11.18 How can you get weather forecasts at sea?

11.19 What weather forecasts do you personally use to plan your sailing around your home port in South Africa?

11.20 What is the time of the next weather forecast on VHF? Where can you look up the details? Demonstrate by looking it up.

11.21 What, if any, Internet weather forecasts do you use?

### **Thunderstorms**

11.22 What cloud is associated with thunderstorms?

11.23 Under what circumstances would you expect cumulonimbus to develop?

11.24 What shape might you see at the top of a towering cumulus cloud to indicate that you have a fully developed cumulonimbus? Why does it form?

## **12. FIRST AID AT SEA**

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12.1 How would you recognise and treat hypothermia?

12.2 How would you treat burns?

12.3 How would you treat sea sickness?

12.4 Do you have a First Aid reference book on board?

## **13. DIESEL ENGINES**

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13.1 Where are the spark plugs and how do you change them?

13.2 What can you do to minimise the risk of fungal growth in your diesel?

13.3 Your starter motor works fine but your diesel engine will not start. What are the likely causes? Describe your actions to resolve the problem.



- 13.4 What engine checks would you do before you go sailing? Demonstrate.
- 13.5 How would you change the cooling water impeller?
- 13.6 What checks do you do to ensure that your battery system is in good health?

#### **14. SAFETY AND EMERGENCIES AT SEA**

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- 14.1 You are sailing in the bay when your mast breaks. Describe your actions.
- 14.2 Discuss the various precautions you would take to minimise the risk of a gas explosion.
- 14.3 Your boat is moored in a marina. As you climb on board and go below you get a strong smell of gas. Describe your actions.
- 14.4 You are sailing in the bay. As you go below you get a strong smell of gas. Describe your actions.
- 14.5 Discuss the various types of fire extinguisher. Explain when you **would** and **would not** use each type.
- 14.6 What are the likely causes of a fire or explosion aboard a sailing boat? What precautions would you take to minimise the risk of fire on board?
- 14.7 You have an injured person on board and a helicopter is coming to pick him up. What are the key issues here? Describe your preparations. What would you say to brief your crew?
- 14.8 Describe the key issues when abandoning to a life raft.
- 14.9 Your boat is holed and flooding. What can you do to reduce the rate at which water is coming into the boat?
- 14.10 Your boat is holed and flooding. You have done your best to staunch the flow, but the water is still coming in faster than the bilge pump or pumps can pump it out. What other options do you have to get more water out?
- 14.11 What flares do you have on board? When would you use them? How would you fire them?
- 14.12 Describe the precautions you would take in fog. How would you navigate in fog.
- 14.13 What are some of the common causes of an electric fire on a yacht? What can you do to minimise the risk of an electric fire?
- 14.14 What is a lee cloth and when would you use it?
- 14.15 What precautions would you take when cooking at sea?

14.16 What does flag Alpha look like? What does it signify?

14.17 What are the practical ways for you to signal distress and call for help at sea?

## **15. SAFETY BRIEFING AND SAFETY EQUIPMENT**

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15.1 You are about to take some friends out for a day sail. They are not experienced sailors. Give an appropriate safety briefing. (You are encouraged to use a brief agenda as a reminder of the major topics to be covered in a safety briefing, but reading from a long list of crib notes would not be acceptable.)

15.2 Explain where all the safety equipment is on your boat and demonstrate how to use it.

15.3 Unpack the contents of your grab bag, describing each item and how you would use it. What items might you add to your grab bag for a coastal passage?

15.4 Where are all the through hull fittings that are below the waterline? Where are the bungs used for in an emergency?

15.5 Where are your life jackets? Demonstrate how to put one on.

## **16. LOCAL KNOWLEDGE – TABLE BAY**

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16.1 What do the lights on the port control building mean?

16.2 For which areas do you have to ask permission from port control before you can enter.

16.3 What VHF channel is used for the port of Cape Town.

16.4 Identify the leading lights for Duncan Dock.

16.5 Identify the lighthouses and their flash sequences.

16.6 What kind of buoy is buoy no 10 in Table Bay? What is its purpose?

16.7 Identify the buoys in Table Bay and explain their purpose.

16.8 Explain the cap cloud (or orographic cloud) that develops over Table Mountain in a SE wind. Why does it only develop in a strong SE and not a light SE?

16.9 Describe the traffic separation scheme in Table Bay.

*(Local knowledge questions from other centres such as Saldanha and Durban may be added.)*



## **17. ANCHORING**

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- 17.1 Demonstrate anchoring.
- 17.2 What can you do to ensure that your anchor has set securely?
- 17.3 How can you check to see if your anchor is dragging?
- 17.4 Your anchor is stuck. Describe some of the techniques you could employ to break it free.
- 17.5 Is your anchor securely stowed? If you have a spare anchor, is that securely stowed as well?

## **18. ADDITIONAL QUESTIONS FOR LOCAL WATERS SKIPPERS ONLY**

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- 18.1 You are about to take some friends out for a night sail. They are not experienced sailors. Give an appropriate safety briefing. (You are encouraged to use a brief agenda as a reminder of the major topics to be covered in a safety briefing, but reading from a long list of crib notes would not be acceptable.)
- 18.2 What specific safety equipment will you ask everyone to put on at sunset?
- 18.3 What specific precautions will you take to make sure that you can find a MOB in the dark?
- 18.4 Describe the navigational disciplines appropriate for a coastal passage.
- 18.5 Describe the safety precautions appropriate for sailing a coastal passage at night.