



# EXAMINER'S REPORT

## MAY 2018

### SHIP OPERATIONS AND MANAGEMENT

#### General

Students need to take into the exam a pen or ball point pen and a ruler, pencils and eraser for a well-presented paper. In addition, they should bring a basic non-programmable calculator as mobile phones are not allowed. Candidates should attempt five questions and budget time for this. Students should understand that a question with a number of parts will normally have an almost equal number of marks for each part. While studying, all candidates should look at and attempt to answer questions from previous exam papers and read and study the previous examiners reports. This exam will always require a reasonable knowledge of geography and a significant number of marks are available for maps which can be the difference between success and failure. Maritime geography while aided by a Maritime Atlas can also be found on the Internet.

#### **Q1. Answer ALL parts of the question:**

- a) **Describe the characteristics for example (dimensions, tonnages, cargo gear) of ONE of the following types of vessel:**
  - i. **A PANAMAX bulk carrier.**
  - ii. **An MR tanker.**
  - iii. **A POST-PANAMAX container vessel.**
- b) Draw a side profile and cross sectional of the vessel.
- c) Clearly label the significant parts of the vessel.

Give details of **ONE** trade route the vessel might operate in, and where and how it will load and discharge its cargo. Use the world map provided to support your answer.

## Ship Description

This was the most popular question and at last several candidates are now attempting to draw ships properly rather than trying to reproduce the sketches in the manual, but the standard of drawing was not very high. Students should familiarise themselves with proper ship plans and drawings to enable them to draw a reasonable representation of their chosen vessel and understand the General Arrangement of vessels. Drawings are often too small they should use the full area of the A4 page. The naming of the different parts of the vessel has improved a little and it is hoped this will continue. Students should know the technical description and characteristic dimensions, deadweight and cubic capacity and equipment onboard of the standard size vessels such as Aframax, Handymax, MR and Panamax etc as they are deliberately built within a small range to match the cargoes on offer and the port or canal restrictions.

Trade routes and cargoes for the vessel need to be logical, a Handymax vessels will seldom load iron ore at Tubarao for discharge at Qingdao as this is normally a Capesize cargo. Maps should show the routes taken. If asked for one trade route, this means write about a single trade with a **named load and discharge port going the logical, shortest and safe route**. These should be ports that load and discharge this cargo as examiners check the validity of these. **Use the map to support your answer**. Do not write two or three pages of detailed information about a trade, a map with the above and a brief description will be sufficient to get you the marks.

## Q2. Answer ALL parts of the question:

- a) **The STCW Code Part A covers eight mandatory standards. What different areas do these cover and what are the main provisions for this within each heading?**
- b) **How can a company ensure that it recruits and retains the highest-qualified, certificated and medically fit seafarers?**

A question that required a good understanding of the STCW, the requirements it makes and the standards it sets. These apply for the vessel and its management, the Master and Deck Officers, the Chief engineer and engine department, Radio personnel, specific requirements for certain types of vessel, dealing with emergencies, certification and watchkeeping. Part (b) was more general and covered how to ensure the company recruited and retained the best staff and a broad answer was expected which could be summarised as **be a good employer**. If you want the best you have to do this given that ships today are expensive, complex pieces of equipment carrying valuable cargo in a hazardous environment. A few mistakes can have catastrophic consequences for the owner's reputation and bank balance. STCW may be seen as a 'stick' but it is a 'stick' used on owners. Owners need to ensure their crews meet the requirements but have to use a 'carrot' to recruit and retain the best people.

**Q3. Answer ALL parts of the question:**

Your vessel will complete discharge at Mazatlan, W Coast Mexico and is fixed to load Vancouver, Canada for discharge at Busan in South Korea.

Bunker ROB on completion Mazatlan 400 MT IFO at \$380 PMT and 250 MT LSGO Max 0.1%S at \$570 PMT

SDWT 51,694 MT on 12.4 M

Cubic Grain 66,181 M<sup>3</sup>

Constant incl FW 510 MT

Loaded speed 13 KTS on 25 MT FO/LSGO per day

Ballast speed 13 KTS on 23 MT FO/LSGO per day

Port consumption 4 MT FO/LSGO per day all purposes

Vessel Daily Running Cost \$9,000 per day

Cargo 50,000 MT grain 10% MOLOO (SF 1.35) Vancouver-Busan

Max Draft at load port 12.3 M SW, Vessel's Max DWAT at this draft is 51,142 MT

No draft restrictions at other ports.

18,000 MT SHEX at Load/10,000 MT SHINC at Discharge.

Freight \$17 FIOST per Metric Tonne

Commission 5%.

**Distances**

Mazatlan- Position 200 NM of Canadian Coast 2315 NM (Position A Start of N.A .ECA )

Position A to Vancouver Inbound 326 NM

Vancouver – Position A Outbound 326 NM

Position A to Busan 4306 NM

**Bunker Prices**

Vancouver HSFO \$400 PMT, LSGO \$600 PMT, concurrent with loading

**Port charges**

Vancouver \$75,000

Busan \$48,000

Using the above and showing your workings calculate:

- a) What quantity of cargo can be loaded?
- b) Bunkering in Vancouver, what quantity would you stem given that the vessel must have a minimum of 5 days' Fuel on board at all times to cover safety margin and your intention to place vessel on spot market at Busan after discharge with 300 MT FO and with not less than 100 MT LSGO on board.
- c) Calculate the daily net profit for the voyage

A straightforward calculation. The cargo was clearly limited by the cubic of the vessel with significant spare deadweight, over 2000 MT so no issue with bunkers. Bunkering would be at Vancouver and that

the vessel had to go on the spot market at Busan after the voyage with at least 300 MT of Fuel and min 100 MT LSGO. The safety margin of fuel ( $5 \times 25 = 125$  MT) was therefore always going to be on board the vessel so does not need to be added to the fuel used nor does it need to be taken during bunkering. Only the fuel actually used for the voyage should be part of the voyage expenses which should be on a FIFO basis. Students should practice doing calculations to be able to layout this out clearly and concisely. Answers that take several pages are difficult to mark and to discover where mistakes have been made, which may only be minor and still gain marks for the correct method.

**Q4. You have been asked by a potential investor about the costs of ship owning.**

- a) **Clearly explain the difference between acquisition/fixed costs, daily running/operating costs and voyage costs.**
- b) **Describe as fully as possible the different cost items you would expect to see in each of these categories.**
- c) **You have received a list of costs for a vessel under your management. How would you apportion these costs to the categories in part 4a?**
  - **Light dues**
  - **P&I call**
  - **War risk insurance premium**
  - **Tug costs at load port**
  - **Supply of main engine lubricants**
  - **Draft survey**
  - **Registration costs**
  - **Agency fees**
  - **On-hire survey for spot charter.**

Part (a) asked for the **difference** between the three types of costs, it did not ask for a list of these which was part of part (b). You should explain the difference and why they are different. Some students decided to answer part (a) and (b) together which was not required. A three-part question should have a three-part answer. Part (b) asked you to describe as fully as possible the different cost items so merely putting crew costs or port costs without any explanation did not get high marks. Part (c) was a simple list of costs to be allocated to the three categories. Some of these could arguably be listed under more than one category, Light Dues being one of these. Marks were given where an explanation of these were provided. War risk cover is normally an Operating cost, AWRP is a voyage cost.

**Q5. Answer ALL parts of the question:**

**Your company is due to accept delivery of a new vessel.**

- a) Why does a vessel need to be registered?**
- b) Briefly describe the different types of registries.**
- c) What are the advantages and disadvantages of registering this vessel under an open registry?**
- d) Give details of five certificates necessary for the vessel to trade commercially that will be issued by this registry and by other organisations under its authority.**

Answer part (a) by explaining the process of getting the ship registered and why. There was some confusion about the number of different types of registry and their names but in general this part was done quite well. The advantages and disadvantages of an open registry were also done well but many focussed on the ability to reduce manning costs but not on the flexibility given to owners to seek worldwide for crews and the simple entry procedures. Flag issues several certificates, Class issues a lot, many of these on behalf of the Flag. But the Certificate of Class is issued by Class under its own authority; it is not delegated to do this by Flag because the reputation of Class rests on its integrity.

**Q6. Answer ALL parts of the question and use the world map to support your answer.**

- a) Your vessel is due to load grains at New Orleans, USA, for discharge at Genoa in Italy. What specific fuels must the vessel have on board for the voyage to meet the various sulphur emission restricted areas that it will encounter on the voyage and at what points during the voyage should each fuel be used?**
- b) The vessel will need to bunker during the loaded passage. Identify a port enroute and briefly explain why it is a successful bunker port.**
- c) What measures should your company have in place to ensure the vessel receives good quality bunkers at the right price?**

Some specific knowledge of the bunkers required for the voyage means that you should identify the type of fuels and their appropriate characteristics which was the sulphur content. Where this was required was also important and the US ECA was identified correctly but the EU Directive was less well understood. This applies to ALL EU member ports which for the last EIGHT years have limited the

sulphur content of fuel used **on vessels in port to a maximum of 0.1%S**. Part (b) asked for a port on the route to be identified and explain why it was successful. It did not ask why the port was your choice only why it was successful. Poor geography let some candidates down with New Orleans appearing on the North, East and West coasts of the US and Genoa in Southern Italy. Neither Rotterdam, New York nor Singapore is on the route. Candidates should become familiar with the best measures to take to get good quality bunkers at the right price. It is a very significant cost item and likely to become even more important in the future.

**Q7. Answer ALL parts of the question:**

**Your vessel is loading in the Red Sea in July for discharge on the south coast of Australia.**

- a) What weather would you expect to encounter on the voyage?**
- b) Fully explain what benefits you would expect from using a weather routing service?**
- c) The early part of the voyage is in a piracy area. What measures would you expect your vessel to take to reduce the risk to the ship and crew? Use the world map provided to support your answer.**

This three-part question was quite popular but the first part about the weather on the voyage from the Red Sea to South Australia in July was answered with varying success; the Monsoon blowing in the Arabian Sea and cyclones in the Northern Indian Ocean. Please also note;

- July is winter time in the Southern Hemisphere, there are no Willy Willies.
- They occur almost always in the Northern Territory and are similar to Tornadoes or Dust Devils.
- They occur when whirl winds develop in, or travel across the hot desert and are dust storms which reduce visibility and the quality of life almost exclusively in the Northern Territories. They are not tropical revolving storms such as Hurricanes, Typhoons or Cyclones.

Students should understand that winds are named after the direction from which they come, they do not slow ships down but the sea and swell they generate do.

There were some excellent answers about weather routing which showed real knowledge and also some good answers about precautions to take against piracy.

**Q8. Your managed vessel is approaching the loading berth with a Pilot on board and tugs in attendance when a strong cross current causes it to collide with an outgoing coastal vessel, pushing that vessel onto nearby berth causing damage to both. Your vessel sustains some damage around the bow and one of your crew is thrown hard against the windlass fracturing his leg.**

**a) What immediate action should be taken on board your vessel?**

**b) What actions should you take to best meet your obligations to all interested parties?**

**c) What resources do you have available in your management office to do this?**

**d) What insurances should be in place to cover this situation?**

A four-part question with part (a) what immediate action would be taken on board. An injured crewman is important but several students focussed on this to the exclusion of almost anything else. First comes the safety of the ship, there is a pilot and tugs are in attendance so make them fast, get the ship onto the berth, get aid to the injured, check the ship is not sinking etc, get a grip on the situation, document what has happened and then call for help to the managers. To meet your obligations in part (b) there are a lot of parties involved and the owner and manager come first with the task of informing other parties passed to the managers. They talk to charterers, cargo interests, insurers, Class, Flag etc. The ship informs the agent and the shore authorities next but then should wait for the managers and the P&I.

Part (c) is to show the general structure of a management office and you should use the resources there to help be it, commercial, operational, technical, or in HR, Storing, spares, insurance etc. Finally, most of this will be covered by the Hull & Machinery (H&M) insurers or the Protection & Indemnity (P&I) club and which insurer covers which damage might be a role for an average adjuster. Students who went through the damage done identifying the probable cover scored better marks and mention of FFO and FDD was an advantage. Cargo insurance is normally arranged by the buyer or seller but damage could be under the P&I. Those who wrote that the incident might be attributed to the negligence of the Port Authority were rewarded.