

# Examiners' Report

## November 2016

### Ship Operations & Management

#### General Comments

Drawings require a ruler, pencils and eraser for a well presented paper. Students should attempt FIVE questions and budget time for this, answering only four will seriously reduce your chance of passing. ALL students should look at and attempt to answer questions from previous exam papers and read and study the previous examiners reports. They should also try to study a Maritime Atlas, as demonstrating a good knowledge of geography can be the difference between success and failure.

Most students made a reasonable attempt at the paper and demonstrated a fair knowledge of the subject but with gaps of knowledge on the wider world of shipping. It is not sufficient to rely solely on study notes or indeed the Book, which while valuable is only an aid to education. Information is available on the internet and all students should be using it to improve their knowledge particularly on maritime geography. Shipping is an international business and a reasonable knowledge of shipping world is required in the exam, particularly when using maps. It is important to read the question carefully to determine what the examiner requires in an answer and to answer it as fully as possible. You need to demonstrate your familiarity with the subject. An answer of only a page or less is unlikely to be enough. The graph paper in the booklet is for use with a calculation, drawing or a graph; it should not be used for an essay. The examiners do not penalise students for lapses in grammar or spelling but they must be able to read your answer so clear and legible handwriting will help us give you marks.

#### Question 1

**Answer ALL parts of the question.**

**a) Describe the characteristics including dimensions, tonnages, cargo gear of ONE of the following types of vessels:**

- i. Handysize bulk carrier.**
- ii. Suezmax tanker.**
- iii. New Panamax container vessel.**

**b) Draw a profile and cross section of the vessel.**

**c) Label the significant parts of the vessel.**

**d) Give details of ONE trade the vessel operates in, where it will load carry and discharge its cargo.**

**Use the world map provided to support your answer.**

Students should however 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. They should also be familiar with the characteristics of the vessels; many were far too imprecise in their answers possibly hoping that the right number would be within the wide range they gave. Students should know these as most of the standard size vessels Panamax, Handymax, Suezmax etc are deliberately built within a small range to match the cargoes on offer, the port draft restrictions and others such as beam and LOA. Trade routes and cargoes for the vessel need to be logical, handysize vessels will seldom load Iron Ore at Tubarao for discharge at Qingdao as this is normally a Capesize cargo. Maps should show the location of **named ports** and routes taken. If the question asks for one trade route, do one only but do it comprehensively.

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#### Question 2

Answer **ALL** parts of the question. Your company operates a number of vessels that trade from ports in Europe, the USA, and the Far East including China, Japan and Korea.

- What specific fuels must be on board your vessels to satisfy the various regulations that apply to sulphur content in these areas?
- Using the map provided show where is it necessary for your vessels to change the fuel they are using to meet the regulations.
- Using the map provided show three locations, one in each area, where bunkers are readily available and explain briefly why these ports have been successful as bunker suppliers.
- What other systems or technologies might your vessels use to meet emission regulation?

**Briefly explain how these systems work.**

Students seem to know that bunkers are a major cost item in any voyage but many still seem unaware of the different regions where specific rules on low sulphur emissions **mandate** low sulphur fuels. In particular the EU regulations that apply to ALL EU member ports which for the last SEVEN years have limited the sulphur content of fuel used on vessels in port to a maximum of 0.1%S. There are no exemptions from this ruling. Most students were aware of the European SECA and the US ECA but should also be aware of their geographic limitations. Students who mentioned the recent implementation of 0.5%S ECAs around some ports in China gained extra marks, but they have not been extended to Japan or Korea as yet. If the question asks for specific information, be specific. Most students identified bunker ports with varying degrees of accuracy and were able to explain some of the factors that have led to their success. The alternative technologies available to low sulphur fuel should have included a brief explanation how they worked.

#### Question 3

Answer **ALL** parts of the question.

Using the voyage information below calculate:

- What quantity of cargo can be loaded? (Show your workings)
- What quantity of bunkers would you stem at Durban? (Give your reason for this)
- Calculate the daily net profit for the voyage. (Show your workings)

Your vessel **South Wind** will complete discharge at Luanda, Angola and is fixed to load Durban, South Africa for discharge at New Mangalore in India.

Bunker **ROB** on completion Luanda 400 MT at \$280 PMT Vessel must have a minimum of 5 days fuel on board at all times to cover safety margin.

Intention is to place vessel on spot market at New Mangalore after discharge with 300 MT FO on board.

**South Wind**

**SDWT 52,888 MT on 12.5 M**

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**Cubic Grain 66,794 M3  
Constant incl FW 540 MT  
Loaded speed 13 KTS on 26 MT FO per day  
Ballast speed 13 KTS on 24 MT FO per day  
Port consumption 4 MT FO per day all purposes  
Vessel Daily Running Cost \$9,200 per day**

**Cargo 50,000 MT grain 10% MOLOO (SF 1.36)  
Durban-New Mangalore Max Draft at load port 12.5 M SW no draft restrictions at other ports.  
19,000 MT SSHEX at Load/11,000 MT SSHINC at Discharge.  
Freight \$14 FIOST per Metric Tonne  
Commission 5%.**

#### **Distances**

**Luanda - Durban 2395 NM  
Durban - New Mangalore 3650 NM**

#### **Bunker Prices**

**Durban HSFO \$270 pmt concurrent with loading**

#### **Port charges**

**Durban \$65,000  
New Mangalore \$37,000**

This was for some centres one of the more popular questions and one where higher marks predominated when students read the question and were confident with the layout of the answer. It was also a comparatively simple calculation with the vessel cubing out well before reaching its summer deadweight, a simple bunker choice and a straightforward cargo calculation. Those who kept the calculation straightforward and realised that the safety margin is a bunker requirement and would always be on board if the vessel bunkered to meet the next voyage found this part simple. It is not necessary to work out the cost of the usage of bunkers for all the different parts of the voyage or to add your own safety margins. It is necessary to use FIFO and to understand that the bunkers you take on the voyage should not be included in the voyage costs, only those used on the voyage.

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#### Question 4

**Answer BOTH parts of the question.**

- a) What information is needed about a vessel in order for you to prepare an operating budget for a vessel?**
- b) You have been asked to prepare such a budget for a client with a fleet of five Capesize bulkers.**

**Describe in detail the typical costs included in a budget estimate of the daily operating costs.**

Another popular question which was generally attempted with some success by most students. In order to prepare a budget for a vessel you need to know something about the vessel otherwise you cannot even begin to do this. Type size and age are all important as all will affect a budget profoundly but so will other factors like the flag, trade pattern, equipment on board and other variables. Papers that addressed this and briefly explained why these points were important got good marks. Budgeting for the daily operating costs for the vessel was also done quite well showing some knowledge of the major cost items that arise just keeping the vessel in service but it should be remembered that vessels are at times out of service and this should be mentioned. Remember apart from some small fuel usage while idle, bunkers are not an operating cost item, they are a voyage cost. The difference between Voyage and Daily operating costs must be clearly understood and, if necessary, explained.

#### Question 5

**Your Aframax tanker will be loading at Lake Maracaibo in Venezuela in May for discharge at Singapore. The vessel can be routed via the Cape of Good Hope, via the Suez Canal or via the Panama Canal all of which are of similar overall distance. What factors will you take into account when deciding which route to take and what sources of information do you have to help you make that decision? Use the world map provided to support your answer, showing the possible routes and key features from your answer.**

This question was about the factors to take into account when deciding a route, not to come to any particular decision, although students who examined all the factors and came to a conclusion based on this were rewarded. All routes were possible; the increased dimensions of the locks at the Panama Canal and new draft limitations could easily handle an Aframax tanker but did not necessarily indicate this choice of route. First and foremost would be the charterparty followed by the charterer's requirements and what was agreed for the rate. After that weather, additional canal charges, delays, piracy etc would all be factors. May is generally too soon for Hurricanes to be an issue; it will be the start of summer at the Cape of Good Hope with generally better weather. The question tested student's knowledge of shipping geography and maritime weather, with some interesting results. For those uncertain about these two subjects further study and the internet would be helpful.

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#### Question 6

Define and explain FIVE of the following abbreviations:

- a) IMDG Code
- b) IEEC
- c) IOPP Certificate
- d) SOLAS Convention
- e) IACS
- f) ISSC
- g) CTL
- h) AWRP

This was not a popular question surprisingly as most of these abbreviations are in everyday use in shipping and some are fundamental. However most of those students who attempted the question scored good marks if they correctly identified what the initials stood for and explained what they related to.

#### Question 7

Answer ALL parts of the question. Your Handymax vessel is due to load a cargo of grain in Argentina in January for discharge in Hamburg in Germany. Your last cargo was mixed timber and wood products. To ensure the safety of your vessel and the proper carriage of the cargo:

- a) What information must you find out and what preparations would you take before loading?
- b) What precautions would you take during and at completion of loading?
- c) What checks would you make on the cargo during the loaded voyage?
- d) What weather and climate conditions would you expect to encounter during the voyage?

Use the world map provided to support your answer.

An unpopular question but one that showed that some students had some detailed knowledge about loading grain cargoes. However few seemed to take into account that before the cargo, the safety of the ship and its crew is paramount and that some consideration should be given to finding about the ports, the berths, the draft, and all the other matters that must be dealt with before starting to load. What about your voyage orders, what type of grain, what is the stowage factor, how much can I load, will that meet the draft etc? On completion of load was done better but many made no mention of a draft survey or shore weighing figures. Most handled the checks during the voyage quite well but ventilation will be key given the changing climate. On a voyage from Argentina to Hamburg in January most showed some knowledge of the changing weather but the Gulf Stream will NOT be a factor and lack of geographical knowledge will miss marks.

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#### Question 8

**Qualified, Certificated and Medically fit (QCM) seafarers are vital for the safety of the vessel. How can a company ensure that it employs and retains QCM seafarers as required by the ISM code? What are the consequences of failing to do this?**

There were some good answers to this question from students who realised that this looked for a wider answer than merely meeting the ISM requirements. The ISM, MLC 2006 and other legislation such as STCW set out to bring at least a uniform base standard to the somewhat questionable practices that prevailed in crewing in the industry and have largely succeeded. If however you wish to recruit and retain QCM seafarers it cannot be enough to merely meet the basic minimum standards or face legal and financial punishment. Would any shore based industry seek to employ staff on that basis and hope to be successful when the most successful companies require dedicated employees who are well trained, properly rewarded and treated with respect? Seafarers are no different except in the environment in which they work and the potential to cause catastrophic damages that could bankrupt the company and imprison its senior management.