



## SHIP OPERATIONS AND MANAGEMENT

### INTRODUCTORY REMARKS

Most candidates made a good attempt at the paper and demonstrated a fair knowledge of the subject, it is essential to read the question carefully and understand what is being asked for. Most candidates attempted five questions but not all answered the questions asked. When using maps, knowledge of geography is required, shipping is an international business. Many papers demonstrated little idea of the location of major ports, some seemed uncertain of the placing of whole countries, seas and canals. Poor spelling and less than perfect English were not marked down but poor writing and irrelevant information may have made it difficult to gain higher marks.

### I. Describe the characteristics (dimensions, tonnages, cargo gear) of one of the following types of vessels:

- (a) Handy size bulk carrier
- (b) Aframax tanker
- (c) Panamax container vessel

**Illustrate your answer with a profile and cross-sectional drawings, clearly labelling the significant parts of the vessel. Give details of one trade the vessel operates in, illustrating your answer on the world map provided.**

One of the most popular questions and one where students who concentrated on detailing the major characteristics accompanied by good quality profile and cross-sectional drawings and naming of the various parts scored well. All students should be able to name clearly the significant parts of a vessel with special emphasis on those peculiar to different types. They should also be aware of the principal dimensions, deadweight, cubic capacity and characteristics. Unfortunately many drawings were poor; too small, drawn without pencil or ruler and with minimal information about the vessel its characteristics or its constituent parts. The descriptions of a typical trade were better but generally the use of maps was not.

### 2. One of your managed vessels described below has been fixed for a voyage from Jorf Lasfar in Morocco to Santos in Brazil with phosphate rock. Vessel is assumed in Summer zone throughout. Using the information below calculate:

- (a) What cargo quantity can be loaded? (Show calculation.)
- (b) Where you would organise bunkers, how much you would order, and your reasons for this choice.
- (c) What daily net profit you anticipate earning for this voyage.

The vessel: India Venture, currently completing discharge at Barcelona (Spain).

Bunker ROB on completion 300 MT. IFO 380 at USD 600 pmt, and 50 MT LS Gasoil. Vessel will not use any further LS Gasoil after departure Barcelona. Intention is to place vessel on spot market on completion Santos with same quantity of bunkers as on completion Barcelona. Vessel must have 5 day safety margin on board at all times. At load or discharge port bunkering is concurrent with cargo operations.

SDWT 45,255 MT on 11.5 M SW

Grain Cubic 61,150 m<sup>3</sup>, 5 HO/HA

Constant including FW 650 MT

Loaded speed / cons 13 KTS on 26 MT IFO 380 PD

Ballast speed / cons 14 KTS on 25 MT IFO 380 PD

Port consumption 4 MT / day

Daily running cost USD 9600 / day

**The Cargo:** 40,000 MT Bulk Phosphate (SF 0.95) 10% MOLOO Jorf Lasfar-Santos.

Max draft load and disport 11.6 M SW

11,000 SHEX load/ 9,000 SHINC disch.

Freight USD 19.5 PMT FIOS Commission 5%

#### Distances:

Barcelona to Gibraltar = 523 nm

Barcelona to Jorf Lasfar = 769 nm

Gibraltar to Jorf Lasfar = 254 nm

Jorf Lasfar to Santos = 4,154 nm

#### Bunker Prices:

Barcelona - USD590 PMT IFO 380

Gibraltar - USD 575 PMT IFO 380 (Calling cost USD 500 and 6 hours to take bunkers)

Jorf Lasfar - USD 650 PMT IFO 180 only available

Santos - USD 600 PMT IFO 380

#### Port Costs:

Load port USD 27,000

Discharge port USD 35,000



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This was a popular question but one where few candidates scored highly. When candidates showed a good knowledge and layout of the calculation this was rewarded but several pages of confused workings with no clear answers provided were not.

Most candidates calculated that the cargo was restricted by deadweight but then made a variety of mistakes in determining what the maximum cargo could be on departure from the load port. Some worked out a figure and multiplied this by the stowage factor; other loaded excess of the deadweight or above the maximum permitted under the contract. It is important to show that the vessel has sufficient volume for the cargo. The bunker safety margin gave a lot of problems despite being told in the question that the vessel would be placed on the spot market with the same quantity of bunkers on board as at the start of the voyage in Barcelona. This quantity would automatically include the safety margin. Some added five days to the steaming time on the voyage; others added their own extra time to cover weather delays. While the latter may be good practice in real life, in an exam you should stick to the calculation and the information given to assist you. Rounding up is acceptable but in most cases was excessive, 11.76 days can be 11.8 or even 12 but not 13.

Almost all candidates missed the point that bunkers should be used on a FIFO basis and a number seemed unaware of SHEX. The only financially feasible port for bunkering was Gibraltar and those candidates who showed why this was by calculation gained extra marks. Many papers failed to determine the maximum cargo to load or the earnings per day and did not clearly show this in their answers. It is important to clearly present your answers to a calculation.

**3. The child of a colleague has expressed a keen interest in a career at sea as a deck officer and would like to know some of the advantages and disadvantages of this. Draw up a list of these with brief explanatory notes for guidance so that you are able to provide them with a balanced view of such a career path.**

The question asked for a list of the advantages and disadvantages with brief explanatory notes for guidance to provide a balanced view. These were some good papers that did this with a degree of imagination but some candidates spent several pages describing the role of different ranks on board while others showed single points to both advantage and disadvantage.

**4. Your company is looking to take management of two vessels and the owner has some doubts about manning these using a mixed nationality crew. This is your normal policy for vessels under your management.**

**Your CEO needs to reassure the owner at his next meeting. Write a report for him briefly explaining:**

**(a) Why mixed nationality crews are employed.**

**(b) What methods you use to minimise friction on board caused by racial, cultural and religious differences.**

**(c) How you would ensure that the crews you recruit are appropriately experienced and trained.**

A popular question but one that was not generally well answered. Candidates were asked to write a report to a CEO giving them a brief explanation as information to use. The answer should have showed this. There are more advantages to a mixed crew than the chance to reduce costs. Part A asked why mixed manning is used and while cost is important many ignored the greater availability of people of all skills that could be drawn on and a number of other advantages. Part B was better answered with some candidates demonstrating real experience of this while those papers which showed knowledge of the STCW convention and the White List scored well with part C.

**5. An owner with a mixed fleet of vessels under your management is considering the purchase of a second-hand vessel and has asked you to prepare a budget for this.**

**(a) Clearly explain the significance of the information you will need for this.**

**(b) What costs will you take into account in preparing the budget to arrive at the approximate daily operating cost of the vessel and show how you will arrive at this?**

Not a popular question but candidates who attempted this scored better than most others. The first part asked for what information is required to be able to produce a budget. As the owner has a mixed fleet under management perhaps the information that was needed concerns the vessel. The vessel's type, size, age, engines and auxiliaries, registry, crewing etc. should be given in order to produce a budget and show why the different aspects of the vessel will have different effects on the cost and the budget. The second part was answered better with most candidates showing how to arrive at daily operating cost. Those who showed that some days out of service could be expected gained some credit.

**6. You have been asked to advise the costs associated with ship ownership.**

**(a) Explain what costs would be incurred in acquiring a vessel.**

**(b) Explain the difference between voyage costs and daily operating costs providing as fully as possible a list of each of these.**

**(c) How would you allocate the following costs for a vessel under your management?**



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**Crew travel and repatriation****Pilotage costs****Light dues****Repair of boiler****War risk insurance****Additional war risk premium****Canal dues****Tugs going into drydock****Registration fees****Supply of fresh vegetables**

The most popular question and one that scored the highest with many candidates. Part A looked for the acquisition costs and was quite well done but several concentrated only on the cost of the vessel itself or its building while ignoring the other acquisition costs such as financing, legal, flagging and positioning. Part B was generally well answered. The question specifically mentioned all three types of costs, fixed, daily running costs and voyage costs in the first two parts but despite this some candidates missed these categories when allocating the costs in Part C.

**7. During discharge of cargo at a port, one of your managed vessels reports that a ship valve at the manifold has fractured and broken off from the pipework, damaging the shore loading arm. Prompt action by the deck watch has averted a major spill but some of the crude oil cargo has gone into the water and one of the crew has suffered minor injuries.**

**(a) What insurances will be in place to cover this incident?**

**(b) What immediate expert assistance will be available for the Master, the manager's emergency response team and the owner?**

Some good answers from those that attempted this with most identifying the H&M, FFO, P&I cover that would be involved. Some went further with some very comprehensive answers while other included General average which probably did not apply. When it came to part B there were some who involved all parties, Class, Flag, Insurers and Port authority and made full use of the resources of the management's office staff to deal these, while other ignored this, and the Agent, leaving it to the Master and Class. It is important to differentiate between a major and a minor incident. This was relatively minor, a small spill, and some slight injury to a crewman and some damage to the manifold. It was not necessary to move the vessel, dry-dock it, declare general average or employ a salvage tug. The question also asked for what immediate help was available; an average adjuster may be needed but not immediately.

**8. Your vessel is entering the Red Sea heading for the Mediterranean and you are now directed to New York to discharge cargo.**

**(a) What specific bunkers will you need to have on board for this voyage and where will you plan to take these?**

**(b) Name three bunker locations en route. What factors have been important in the development of these three which make them successful as bunker ports?**

**(c) You are not familiar with bunker ports in this region. Provide six measures you could put in place to ensure you get the bunkers you require at a reasonable cost.**

The least popular question which was surprising given that bunkers are the single largest cost item in the daily running of the vessel albeit being a voyage cost. For the first part candidates who demonstrated knowledge of the ECA rules and regulations and some of other restrictions together with the appropriate specification ISO 8217 gained the best marks.

With the vessel entering the Red Sea bound for the Mediterranean and being diverted to New York to discharge it should be appreciated that the vessel may need more high sulphur fuel for the longer voyage and LSFO for the USA. It should also be apparent to students with some geographical knowledge that ports such as Fujairah, Singapore, Rotterdam and Houston are not on the route, all requiring a very significant diversion. There are also better alternatives available to Barcelona, Piraeus, and Las Palmas all of which require a small diversion. Some identified Gibraltar, Suez and Jeddah but not many picked up on Ceuta, Malta, Kali Limenes, Algeciras or Huelva. The factors that made such ports successful are also largely geographical but local refining, good storage and low port costs play a part. Answers to the last part regarding the measures to take to ensure getting the right bunkers at the right price centred more on price than on quality with fewer candidates mentioning, inspection, sampling testing and other measures.