



THURSDAY 5<sup>TH</sup> NOVEMBER 2015 – MORNING

## SHIP OPERATIONS & MANAGEMENT

Time allowed – three hours

Answer any **FIVE** questions – all questions carry equal marks

Please read the questions carefully before answering

1. Answer **ALL** parts of the question.

- a) Describe the characteristics for example (dimensions, tonnages, cargo gear) of **ONE** of the following types of vessels:
  - i) HANDYSIZE bulk carrier.
  - ii) AFRAMAX tanker.
  - iii) Current PANAMAX container vessel.
- b) Draw a side profile, plan and cross section of the vessel.
- c) Clearly label the significant parts of the vessel.
- d) Give details of one trade the vessel operates in, where and how it will load carry and discharge its cargo. Use the world map provided to support your answer.

2. Answer **ALL** parts of the question.

Your company is due to accept delivery of a new build Capesize bulk carrier and this vessel will be registered with a flag of convenience.

- a) What are the advantages and disadvantages of doing this?
- b) What certificates for the vessel will be issued by this flag and what do they signify?
- c) Name five other certificates which will be issued under the authority of this flag and which organisations will likely issue these.

3. Answer **ALL** parts of the question.

You are the owner of a small fleet of commercial vessels but have contracted out all aspects of management to third-party ship managers.

- a) Draw an organisation chart of the company that is entrusted with this.
- b) Describe the main departments and their role and responsibilities in managing the vessel.
- c) Identify a management contract commonly used in the industry and explain the legal relationship between you and your managers. How would you expect your managers to act should the vessel be arrested *in rem* and what lessons might you take from this.

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4. Answer **ALL** parts of the question.

One of your vessels has been fixed to carry out the following voyage. Using the factors below calculate:

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

The vessel: *Silver Dream*, currently completing discharge at Veracruz (East Coast Mexico).  
Bunker ROB on completion 400 MT. IFO 380 at USD 375 pmt, and 200 MT LS 0.1% Heavy Gasoil at \$620 pmt. Intention is to place vessel on spot market on completion Kobe with same quantity of bunkers as on completion Veracruz. Vessel must have 5 days appropriate fuel safety margin on board at all times. At load or discharge ports bunkering is concurrent with cargo operations. Currently expecting and allowing maximum of one day's delay for transit of Panama.

SDWT 46,520 MT on 11.4 SW.

Grain Cubic 59,755 m<sup>3</sup>, 5 HO/HA

Constant including FW 650 MT

Loaded speed / cons 13 KTS on 27 MT IFO 380/ LS Heavy Gasoil 0.1% PD

Ballast speed / cons 14 KTS on 25 MT IFO 380/ LS Heavy Gasoil 0.1% PD

Port consumption 4 MT MT IFO 380/ LS Heavy Gasoil 0.1% PD

Daily running cost USD \$ 8,800 / day

**The cargo:** - 45,000 MT bulk soya beans (SF 1.36) 10% MOLOO. Galveston-Kobe.

Max draft load and disport 11.6 M SW. Max draft Panama 11.7 SW

14,000 SSHEX load/ 11,000 SSHINC disch.

Freight US \$29 PMT Commission 5%.

**Distances:**

Veracruz-Galveston = 630 nm(including 200 NM in US Low Sulphur Fuel Zone)

Galveston to Balboa including Panama Canal transit distance = 1540 nm (including 200 NM in US Low Sulphur Fuel Zone)

Balboa to Kobe = 7980 nm

**Bunker prices:**

Veracruz - \$380 PMT IFO 380 No LS Heavy Gasoil

Galveston - \$350 PMT IFO 380. \$600 LS Heavy Gasoil 0.1%

Balboa - \$340 PMT IFO 380. \$590 LS Heavy Gasoil 0.1% (6 hours bunkering)(\$2,000 barge cost)

Port costs:

Load port USD\$ 38,000

Discharge port US\$ 43,000

Panama Canal transit cost US\$ 77,000

5. Answer **ALL** parts of the question.

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

- a) Explain what costs would be incurred in acquiring the vessel.
- b) Explain the difference between the above and voyage costs and daily operating costs.
- c) Identify the main voyage and daily operating costs.
- d) How would you allocate the following costs for a vessel under your management?
  1. Crew bonuses and overtime.
  2. Pilotage costs.
  3. Light dues.
  4. Replacement of radar system.
  5. Additional War Risk Insurance.
  6. Garbage services in drydock.
  7. Mooring boat charges.
  8. Tugs going into drydock.
  9. Registration fees.
  10. Supply of fresh water.

6. Answer **ALL** parts of the question.

Your company is looking to take management of a vessel and the owner has some doubts about manning this ship using a mixed nationality crew, your normal management policy. In a report to your owner, list and explain:

- a) Why your company employs mixed nationality crews.
- b) How you ensure that the crews you recruit are appropriately experienced and trained.
- c) What methods you use to minimise friction on board caused by racial, cultural and religious differences.

7. Answer **ALL** parts of the question.

Your Suezmax tanker has recently sailed from Bonny Offshore Terminal Nigeria heading for the Fos-Lavera in southern France to discharge when you receive orders to now proceed to Rotterdam to discharge. Your vessel regularly trades West Africa to NW Europe and the Mediterranean.

- a) What specific bunkers would you expect to have on board for the voyage? What other fuel might you now need to take to meet all regulatory requirements?
- b) Using the world map provided show three bunker locations on the route. What factors have been important in the development of these three locations which make them successful as bunker ports?
- c) You have experience with bunker ports in this region. What measures does your company have in place to ensure you get the good quality bunkers you require at a reasonable cost?

**PLEASE TURN OVER**

8. Answer **ALL** parts of the question

Your Panamax bulk carrier is fixed on charter to load a cargo of grain at Port Kembla, on the east coast of Australia in early February for discharge at Itaqui in northern Brazil. The vessel could be routed via Cape of Good Hope, the Panama Canal, or Cape Horn which are similar in distance. What factors would you take into account when deciding which route to take and what resources are available to help you in decision making? Using the world map provided show the relevant routes, ports and bunkering locations.