



WEDNESDAY 9th APRIL 2014 – AFTERNOON

SHIP OPERATIONS AND 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 (dimensions, tonnages, cargo gear) of **one** of the following types of vessel:

- i) Capesize bulk carrier
- ii) MR Products tanker
- iii) modern Post or new Panamax container vessel
- iv) offshore supply vessel

b) Illustrate your answer with profile and cross-section drawings clearly labelling the significant parts of your chosen vessel.

c) Using the world map provided, give details of **one** trade the vessel operates in and how it will load, carry and discharge this cargo.

2. Answer **both** parts of the question:

Your company is due to accept delivery of a new build vessel. You will be registering the vessel 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?

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3. Answer **all** parts of the question:

You have fixed your time charter vessel for a final voyage from Bahia Blanca in Argentina to Kochi (Cochin) in India with grain. Vessel is assumed in Summer Zone throughout. Intention is to redeliver vessel to owners on completion Kochi (Cochin) with 500 MT IFO 380 and not less than 50 MT MGO as per TC agreement. Above quantities easily cover owner's safety margin. Using the information in the box below, demonstrate by calculations:

a) What cargo quantity can be loaded? (Show calculation.)

b) Where you would organise bunkers, how much you would stem, and your reasons for this choice.

c) What daily net profit you anticipate earning for this voyage?

The vessel: Grain Lady, currently completing discharge at Santos in Brazil.
Bunker ROB on completion 400MT. IFO 380 at USD625 pmt, and 100MT MGO at USD1000 pmt. Above quantities cover owner's safety margin.

SDWT 45,255MT on 11.0 M SW.

Grain cubic 56,247 m³, 5 HO/HA.

Constant including FW 430MT.

Loaded speed/cons 13KTS on 24MT IFO 380 PD.

Ballast speed/cons 14KTS on 23MT IFO 380 PD.

Port consumption 3MT per day of IFO 380.

In addition vessel uses 1MT MGO per day every day for auxiliary power pack.

Daily charter hire USD9000/day.

The Cargo: 40,000MT grain (SF 1.36) 10% MOLOO. Bahia Blanca to Kochi (Cochin).

Max draft at disport 11.0 M SW.

13,000 SHINC load/9,000 SHEX disch.

Freight USD23 PMT FIOS Commission 5%.

Distances:

Santos to Bahia Blanca 1296 NM

Bahia Blanca to Kochi (Cochin) 8265 NM

Bunker Prices:

Santos USD600 PMT IFO 380 Bunkers available after completion but will delay vessel by 12 hours, use extra daily bunkers pdpr and incur additional post/barge costs of USD3000.

Bahia Blanca USD610 PMT IFO 380 Bunkering concurrent with loading, no other additional costs.

Santos USD1100 PMT MGO ex pipe

Bahia Blanca USD1150 PMT MGO ex truck

Port Costs:

Load port USD27,000

Disport USD35,000

4. Answer **all** parts of the question:

Your vessel is loading in the Arabian Gulf in July for discharge in Wellington, New Zealand.

- a) What weather would you expect to encounter on the voyage which will route you south of Australia?
- b) Fully explain what benefits you would expect from using a weather routing service.
- c) What other concerns will you have to address for the early part of the voyage?

5. Answer **both** parts of the question:

You have been asked to prepare a budget for a client with a fleet of five Capesize bulkers.

- a) Describe in detail the typical costs included in a budget estimate of the daily operating costs.
- b) Explain how you would monitor all these costs during the management of the vessel and what circumstances might arise that could make significant variations to the figures.

6. Answer **all** parts of the question:

Your managed vessel is approaching the discharge berth when it hits a small fishing vessel moored alongside a jetty causing serious damage to the fishing vessel which starts to sink. It is abandoned swiftly by its crew. Your vessel sustains some damage to the bow.

- a) What immediate action in the first few hours should be taken on board the vessel?
- b) What actions should you take to best meet your obligations to all parties?
- c) What resources do you have available to do this?
- d) What insurances should be in place to cover this situation?

7. Answer **both** parts of the question:

a) Explain what certificates and documentation a vessel carries to show compliance with the International Safety Management (ISM) code. Which bodies issue these certificates and what does the issuance of these certificates signify?

b) Explain the role and responsibilities of the DPA with regard to the safe operation of a vessel and the proper implementation of the Safety Management System.

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8. Answer **all** parts of the question:

Your vessel is completing discharge in the Caribbean and will need to take bunkers during the next voyage which will be loading at New Orleans, USA for discharge Genoa in Italy. The vessel is not fitted with specialised scrubbing equipment to deal with sulphur emissions.

- a) What specific grades or types of bunkers must the vessel have on board for the voyage to meet all regulatory requirements?
- b) Where on the voyage would you consider taking these bunkers and why would you choose these locations? Why are these ports successful bunkering locations?
- c) What procedures should you expect your company to have in place to ensure that your vessel receives bunkers of specified quantity and quality at a competitive price and avoids any problems arising with using these?