



TUESDAY 16<sup>TH</sup> MAY - 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 including dimensions, tonnages, cargo gear of **ONE** of the following types of vessels:
    - i. Capesize bulk carrier
    - ii. VLCC tanker
    - iii. Feeder 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.
  
2. What are the risks covered under the P&I Clubs Insurance? Give details of these and what is included in each category.
  
3. You work in the operations department of a shipping company and your Handysize bulkcarrier has been fixed on a time charter basis to load a full cargo of bulk harmless fertilisers from Ashdod Israel in the Eastern Mediterranean to discharge in Paranagua Brazil. Two days before arrival at the load port, the vessel sends an email to the head office in London reporting a major engine failure and declaring the vessel not under command. The vessel is drifting towards the coast of Crete with the likelihood of grounding and will send an SOS in 30 hours time unless action is taken. What are the actions you will take to deal with this situation?

**PLEASE TURN OVER**

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

Using the below data provided below, calculate

- a) What quantity of cargo can be loaded? (Show your working)
- b) Where would you organise bunkers and what quantity would you stem giving your reason for this.
- c) Calculate the daily net profit for the voyage. (Show your workings)

Your vessel SILVER DREAM will complete discharge at Seattle in the USA and is fixed to load Portland USA for discharge at Nagoya in Japan.

Bunker ROB on completion Seattle 400MT IFO 380@\$280pMT & 190MT LSGasoil 0.1%\$450pMT

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 Nagoya after discharge with minimum 400 MT FO on board and 200 MT LSGasoil.

All fuel used in SECA is LSGasoil 0.1%\$

**SILVER DREAM**

SDWT 51,246 MT on 12.3 M

Cubic Grain 66,392 M3

Constant incl. FW 520 MT

Loaded speed 13 KTS on 24 MT FO or LSGasoil per day as appropriate

Ballast speed 14 KTS on 23 MT FO or LSGasoil per day as appropriate

Port consumption 4 MT FO or LSGasoil per day as appropriate all purposes

Vessel Daily Running Cost \$8,800 per day

Cargo 50,000 MT Soyabean 10% MOLOO (SF 1.39) Oregon-Nagoya

Max Draft at load port 12.4 M SW no draft restrictions at other ports

18,000 MT SSHEX at Load/12,000 MT SSHINC at Discharge

Freight \$15 FIOST per Metric Tonne

Commission 5%

**Distances**

Seattle-Portland 392 NM (All steaming in US SECA)

Portland to limit of US SECA Zone 275 NM

Portland-Nagoya 4455 NM

All fuel used in SECA to be LSGasoil.

**Bunker Prices**

Seattle IFO \$250 pMT, LSGasoil \$440pMT + (\$2000 Barge charge) (6 hours for taking bunkers after completion)

Portland IFO \$270 pMT, LSGasoil \$460 pMT (concurrent with loading)

Nagoya IFO \$280 pMT, LSGasoil \$470 pMT (during discharge)

**Port charges**

Portland \$67,000

Nagoya \$72,000

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

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

- a) Clearly explain the difference between fixed costs, operating or daily running costs and voyage costs
- b) You have received a list of costs for a vessel under your management. How would you apportion these costs to the above and which would be for the owners directly under fixed costs.
  - Port Dues
  - Supply of Lubricants
  - Supplementary P&I call
  - War Risk Insurance Premium
  - Additional War Risk Premium
  - Pilotage Cost
  - Annual Class survey of ISM system
  - Bunker Survey
  - Registration Costs
  - Agency fees
  - New Gyro System for the vessel.
- c) What different cost items would you see in each of the three cost categories?

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

Your container vessel is loading at Bremerhaven, Rotterdam and Gioia Tauro in Italy for a voyage to Singapore and Hong Kong via the Suez Canal.

- a) What specific bunker fuels will you need to have on board to meet all the regulatory requirements concerning sulphur emissions?
- b) You intend to bunker during the voyage. Name **THREE** bunker locations on this route. What factors have been important in the development of these **THREE** which make them successful as bunker ports?
- c) What measures would you expect your company to have in place to ensure you get good quality bunkers at a reasonable cost?

Use the world map provided to show this voyage indicating the ports and significant features to support your answer.

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

Weather routing services for ships are widely available.

- a) What use is made of these by commercial shipping?
- b) What are the benefits of using a weather routing service?
- c) Your Handysize vessel will complete loading a full cargo in Tanzania, East Africa in July and is bound for New Orleans USA. What weather would you expect to encounter en route, what choices would you make regarding the route to take and what might be the benefits of weather routing. Use the world map provided to support your answer.

**PLEASE TURN OVER**

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

Your Suezmax vessel has been voyage chartered out to an oil major to load a full cargo of crude oil two grades at two offshore loading facilities in Angola West Africa in January for discharge in Fos Lavera in France. Your last cargo was a full cargo Bonny Light Crude Oil. To ensure the safety of your vessel and the proper load, carriage and discharge of the cargo meeting International and charterers requirements;

- 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 and on the loaded passage?
- c) What action would you take at the discharge port?

Use the world map to show detail of the voyage.