



NOVEMBER 2023 EXAMINATION SESSION
THURSDAY 23rd NOVEMBER 2023– AFTERNOON

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 of **ONE** of the following types of vessels including dimensions, tonnages, cargo gear and equipment.
 - i. Capesize Bulk Carrier
 - ii. Suezmax tanker.
 - iii. New Panamax container vessel.
 - b) Draw a side profile and cross sectional of the vessel (do not draw a plan view).
 - c) 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 **BOTH** parts of the question.
 - a) Explain the role and responsibilities of the DPA regarding the safe operation of each vessel and the proper implementation of the International Safety Management (ISM) system.
 - b) Explain what specific certificates and other documents a vessel must carry to show compliance with the (ISM) code. Identify their validity, which bodies issue these certificates and what these certificates signify. What other important documentation should the vessel have to support these certificates?

PLEASE TURN OVER

3. 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 acquisition/fixed costs, daily running/operating costs and voyage costs.
- b) Describe as fully as possible the different cost items you would expect to see in acquisition and voyage costs.
- c) Describe as fully as possible the different cost items you would expect to see in daily operating costs.
- d) You have received a list of costs for a vessel under your management. How would you apportion the following costs to the categories in part (a):
 - i. Light dues
 - ii. P&I call
 - iii. War risk insurance premium
 - iv. Tug costs at load port
 - v. Supply of main engine lubricants
 - vi. Draft survey
 - vii. Registration costs
 - viii. Agency fees
 - ix. On hire survey for spot charter
 - x. New Gyro system for the vessel

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

All vessels must comply with the current international regulations regarding sulphur emissions from the fuels they use around the world. There are currently two different levels of sulphur emissions permitted.

- a) Give details of the areas where the most restricted sulphur emissions apply and the permitted sulphur content. What sulphur emissions are permitted in the remaining areas. Use the world map provided to support your answer showing relevant SECAs, ECAs and other restricted areas.
- b) Bunkers are a high-cost item and available at many ports and anchorages. Using the world map provided identify **ONE** major bunker port in each of the following regions, North America, the Caribbean, South America, Northern Europe, the Mediterranean, North Africa, the Arabian Gulf, Southeast Asia, China and Japan. Give **FIVE** reasons why these bunker ports might expect to be successful.

5. Answer **ALL** parts of the question and show your workings for each.

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

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

Vessel is currently completing discharge at Brisbane, Australia and is fixed to load Adelaide, South Australia for discharge at Kawasaki in Japan.

Bunker ROB on completion Brisbane=440 LSFO 0.5%\$ at \$680 pmt.

Vessel must have a total of at least 300 MT LSFO on board at all times to cover safety margin and will use only LSFO on the voyage. Intention is to place vessel on spot market at Kawasaki with at least **800 MT LSFO** on board.

SDWT 52,570 MT on 12.1 M

Cubic Grain 64,129 M3

Constant incl FW 520 MT

Loaded speed 13 KTS on 25 MT LSFO per day

Ballast speed 13 KTS on 23 MT LSFO per day

Port consumption 3 MT LSFO per day

Vessel Daily Running Cost \$8,900 per day

Cargo 50,000 MT grain 10% MOLOO (SF 1.35) Adelaide - Kawasaki

Max DWAT at Load port 55,000 MT, no draft restrictions at load, discharge or bunker ports.

10,000 MT SShEX at Load/12,000 MT SShINC at Discharge.

Freight \$23 FIOST per Metric Tonne

Commission 5%.

Distances

Brisbane-Adelaide 1509 NM

Adelaide to Kawasaki 5320 NM

Bunker Prices

Brisbane LSFO \$630 pmt after completion but delay extra 12hrs before departure.

Adelaide LSFO \$650 pmt concurrent with loading

Kawasaki LSFO \$650 pmt (at anchorage after discharge)

Port charges

Adelaide \$70,000

Kawasaki \$85,000

PLEASE TURN OVER

6. 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 fertiliser. 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.

7. How can a company ensure that it employs and retains the best crews for its ships and what are the possible consequences of failing to do this?

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

Your vessel is moored alongside a berth and is close to completion of discharge of a cargo of steel coils. A vessel approaching a berth to moor ahead of you with pilot on board and tugs in attendance loses control and makes contact with your vessel, penetrating a side ballast tank and causing other structural damage of No3 hold. A crewman and two stevedores suffer injuries while working in the hold.

- a) What immediate action should the crew take on board your vessel?
- b) What should the management company do to assist the vessel and the crew?
- c) What assistance is available at the port and in the local area?
- d) What insurances does the vessel have to cover this incident?