



WEDNESDAY 23rd MAY – MORNING

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 for example (dimensions, tonnages, cargo gear) of **ONE** of the following types of vessel.
 - i. A PANAMAX bulk carrier.
 - ii. An MR tanker.
 - iii. A POST-PANAMAX container vessel.
 - b) Draw a side profile and cross sectional of the vessel.
 - c) Clearly label the significant parts of the vessel.
 - d) Give details of **ONE** trade route the vessel might operate in, and where and how it will load and discharge its cargo. Use the world map provided to support your answer.

2. Answer **ALL** parts of the question:
 - a) The STCW Code Part A covers eight mandatory standards. What different areas do these cover and what are the main provisions for this within each heading?
 - b) How can a company ensure that it recruits and retains the highest-qualified, certificated and medically fit seafarers?

PLEASE TURN OVER

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

Your vessel will complete discharge at Mazatlan, W Coast Mexico and is fixed to load Vancouver, Canada for discharge at Busan in South Korea.

Bunker ROB on completion Mazatlan 400 MT IFO at \$380 PMT and 250 MT LSGO Max 0.1%S at \$570 PMT

SDWT 51,694 MT on 12.4 M

Cubic Grain 66,181 M³

Constant incl FW 510 MT

Loaded speed 13 KTS on 25 MT FO/LSGO per day

Ballast speed 13 KTS on 23 MT FO/LSGO per day

Port consumption 4 MT FO/LSGO per day all purposes

Vessel Daily Running Cost \$9,000 per day

Cargo 50,000 MT grain 10% MOLOO (SF 1.35) Vancouver-Busan

Max Draft at load port 12.3 M SW, Vessel's Max DWAT at this draft is 51,142 MT

No draft restrictions at other ports.

18,000 MT SHEX at Load/10,000 MT SHINC at Discharge.

Freight \$17 FIOST per Metric Tonne

Commission 5%.

Distances

Mazatlan- Position 200 NM of Canadian Coast 2315 NM (Position A Start of N.A .ECA)

Position A to Vancouver Inbound 326 NM

Vancouver – Position A Outbound 326 NM

Position A to Busan 4306 NM

Bunker Prices

Vancouver HSFO \$400 PMT, LSGO \$600 PMT, concurrent with loading

Port charges

Vancouver \$75,000

Busan \$48,000

Using the above and showing your workings calculate

- a) What quantity of cargo can be loaded?
- b) Bunkering in Vancouver, what quantity would you stem given that the vessel must have a minimum of 5 days' Fuel on board at all times to cover safety margin and your intention to place vessel on spot market at Busan after discharge with 300 MT FO and with not less than 100 MT LSGO on board.
- c) Calculate the daily net profit for the voyage.

PLEASE TURN OVER

4. 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 each of these categories.
 - c) You have received a list of costs for a vessel under your management. How would you apportion these costs to the categories in part 4a?
 - Light dues
 - P&I call
 - War risk insurance premium
 - Tug costs at load port
 - Supply of main engine lubricants
 - Draft survey
 - Registration costs
 - Agency fees
 - On-hire survey for spot charter.
 - New Gyro System for the vessel.

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

Your company is due to accept delivery of a new vessel.

- a) Why does a vessel need to be registered?
- b) Briefly describe the different types of registries.
- c) What are the advantages and disadvantages of registering this vessel under an open registry?
- d) Give details of five certificates necessary for the vessel to trade commercially that will be issued by this registry and by other organisations under its authority.

6. Answer ALL parts of the question and use the world map to support your answer.

- a) Your vessel is due to load grains at New Orleans, USA, for discharge at Genoa in Italy. What specific fuels must the vessel have on board for the voyage to meet the various sulphur emission restricted areas that it will encounter on the voyage and at what points during the voyage should each fuel be used?
- b) The vessel will need to bunker during the loaded passage. Identify a port enroute and briefly explain why it is a successful bunker port.
- c) What measures should your company have in place to ensure the vessel receives good quality bunkers at the right price?

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

Your vessel is loading in the Red Sea in July for discharge on the south coast of Australia.

- a) What weather would you expect to encounter on the voyage?
- b) Fully explain what benefits you would expect from using a weather routing service?
- c) The early part of the voyage is in a piracy area. What measures would you expect your vessel to take to reduce the risk to the ship and crew? Use the world map provided to support your answer.

8. Your managed vessel is approaching the loading berth with a Pilot on board and tugs in attendance when a strong cross current causes it to collide with an outgoing coastal vessel, pushing that vessel onto nearby berth causing damage to both. Your vessel sustains some damage around the bow and one of your crew is thrown hard against the windlass fracturing his leg.

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