



NOVEMBER 2022 EXAMINATION SESSION
MONDAY 21st NOVEMBER 2022– 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 of **ONE** of the following types of vessels including dimensions, tonnages, cargo gear and equipment.
 - i. Capesize Bulk Carrier
 - ii. VLCC tanker
 - iii. Post-Panamax container vessel.
 - b) Draw a side profile and cross sectional of the vessel.
 - 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 **ALL** parts of the question.

Your company is due to accept delivery of a new build cargo vessel and this will be registered with an open registry.

- a) What are the advantages and disadvantages of doing this?
- b) Give details of **THREE** specific certificates for the vessel that will always be issued by this Flag, what they signify and their validity?
- c) Give details of **FIVE** other Certificates which will be issued either by Flag or under the authority of this Flag together with their validity and what they certify. Which organisations will likely issue these?

PLEASE TURN OVER

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

Using only the data below and avoiding excessive rounding up, calculate:

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

Your vessel will complete discharge at Cartagena, Colombia and is fixed to load at New Orleans USA for discharge at Genoa, Italy.

Bunker ROB on completion Cartagena
450MT VLSFO 0.5%S 380@\$750 pMT
200 MT LSGasoil 0.1%S @ \$1000 pMT

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 Genoa after discharge with minimum
600 MT LSFO 0.5%S on board and 250 MT LSGO 0.1%S. All fuel used in ECAs and EU Ports is
LSGasoil 0.1%S

SDWT 77,116 MT on 14.1 M

Cubic Grain 85,457 M3

Constant including FW 550 MT

Loaded speed 13 KTS on 33 MT VLSFO 0.5%S or 33 MT LSGO 0.1%S per day as appropriate

Ballast speed 14 KTS on 31 MT VLSFO 0.5%S or 31 MT LSGasoil 0.1%S per day as appropriate

Port consumption 2 MT VLSFO 0.5%S or 2 MT LSGasoil 0.1%S per day as appropriate all purposes

Vessel Daily Running Cost \$11,000 per day

Cargo 60,000 MT Grain 10% MOLOO (SF 1.38) New Orleans-Genoa. No draft restrictions on voyage.

17,000 MT SSHEX at Load/13,000 MT SSHINC at Discharge.

Freight \$27 FIOST per Metric Tonne. Commission 5%.

Distances

Cartagena- US ECA Limit 1230 NM

US ECA Limit - New Orleans 280 NM

New Orleans - US ECA Limit 280 NM

US ECA Limit—Genoa,Italy. 5208 NM

Bunker Prices

New Orleans: VLSFO 0.5%S \$750 pMT, LSGO 0.1%S \$1040 pMT (concurrent with load))

Cartagena: VLSFO 0.5%S \$775 pMT, LSGO 0.1%S \$1065pMT (concurrent with discharge)

Port charges

New Orleans \$73,000

Genoa. \$81,000

4. Answer **BOTH** 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. Why would you expect costs to be divided in this way?
- b) Give full details and explain the different cost items you would expect to see in each of these three categories.

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

Your loaded vessel is berthing in a river port when a short loss of power to the main engine leads to the vessel colliding with the jetty causing some damage and holing the No 1 starboard ballast wing tank despite the prompt actions of the tugs made fast to the vessel.

One of the two head ropes, which had been made fast ashore, breaks, and injures a shore lineman and one of your crew just as power is restored.

- a) What immediate action should be taken on board the vessel to deal with this incident and what insurances do you have in place to cover this?
- b) What assistance is available ashore and in your management office to assist the Master and meet your obligations to all the parties involved with the vessel?

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

Your Handymax vessel is due to load a cargo of grain in Buenos Aires, Argentina in January for discharge in Amsterdam in the Netherlands. Your last cargo was mixed timber and wood products. 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 show the voyage route, load and discharge port and identify seas and waterways on the passage.

PLEASE TURN OVER

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

Your MR Tanker is loading in the Red Sea in July for discharge in Melbourne, Australia.

- a) What weather would you expect to encounter on the voyage?
- b) Fully explain the 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. Define and explain any **FIVE** of the following abbreviations.

- i. CSR
- ii. AWRP
- iii. SEEMP
- iv. IOPP
- v. PFSO
- vi. ISPS Code
- vii. IEEC
- viii. NAABSA
- ix. NDFFCAPMQS
- x. WIBON