



NOVEMBER 2025 EXAMINATION SESSION
TUESDAY 11th NOVEMBER 2024
5 – 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.

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

- a) Explain why a vessel needs 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, validity, and survey cycle of **FIVE** certificates, necessary for the vessel to trade commercially, that will be issued by this Flag/Registry and/or by other organisations under its authority.

2. 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. Ultramax Bulk Carrier
 - ii. Suezmax Tanker
 - iii. Very Large Container Ship
- b) Draw a side profile and a cross-section 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.

PLEASE TURN OVER.

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

Using only the data provided 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 reason 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@\$500 pMT

270 MT LSGasoil 0.1%S @ \$700 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 320 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 LSGO 0.1%S per day as appropriate

Ballast speed 14 KTS on 21 MT VLSFO 0.5%S or 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 \$21 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—Gibraltar ECA . 4300 NM Steaming not in ECA Med ECA begins Gibraltar

Gibraltar -Genoa, Italy 847 NM All steaming in Med ECA

Bunker Prices

New Orleans: VLSFO 0.5%S \$480 pMT, LSGO 0.1%S \$650 pMT (concurrent with load)

Cartagena: VLSFO 0.5%S \$505 pMT, LSGO 0.1%S \$675pMT (concurrent with discharge)

Port charges

New Orleans \$73,000

Genoa \$81,000

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

- a) Bunkers are a major cost item for a vessel and there are many providers available around the world. Explain how you can ensure that you choose the right location and supplier to get the best bunkers at the right price and what actions and checks you and the vessel can make to ensure this.
- b) Successful Bunker ports rely on several factors. Explain these factors in detail using as an example **ONE** Bunker port of your choice

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

Your vessel is berthing at the discharge port to deliver cargo 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 port ballast wing tank despite the prompt actions of the tugs made fast to the vessel. One of the two mooring lines forward, which had been made fast ashore, breaks, and injures a shore lineman and one of your crew just as power is restored.

- a) Identify the immediate action that should be taken on board the vessel to deal with this incident and identify what insurances you have in place to cover this.
- b) Describe the assistance available ashore and in your management office, which would assist the Master and meet your obligations to all the parties involved with the vessel.

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

The International Maritime Solid Bulk Cargoes Code (IMSBC) came into force in 2011. Your vessel has been fixed to load a solid bulk cargo of Mineral Concentrate which is listed as Group A under the code.

- a) Describe a mineral concentrate and what specific hazard does a listing under this group A signify.
- b) Explain general information that must be given to the vessel to enable the crew to prepare for this.
- c) Give details of the specific documentary information which must be given by the suppliers/shippers to the vessel before loading.
- d) What must the vessel agree to before loading with the terminal, and what must be checked during the load to ensure that the requirements of the IMSBC code continue to be met?

PLEASE TURN OVER.

7. The company you work for currently manages a fleet of 40 vessels, a mixture of tankers and bulk carriers for which you have commercial, technical and operational management.

Describe the various departments that would be in the company and explain the key functions and responsibilities of each department. Draw an organisational chart for the company and identify the key roles within it.

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

Your Panamax vessel is due to load a cargo of Grain in New Orleans in the USA in late October for discharge in Hamburg in Germany. 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) Detail the precautions you would take during and at completion of loading.
- c) What actions would you take during the loaded voyage?
- d) Discuss the weather and climate conditions which you would expect to encounter during the voyage using the world map provided to support your answer.