



INSTITUTE OF
CHARTERED
SHIPBROKERS

MAY 2021 EXAMINATION SESSION
Tuesday 25TH MAY 2021 - 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 as fully as possible the characteristics including dimensions, tonnages, cargo gear of **ONE** of the following types of vessels:
 - i. Handymax/Supramax bulk carrier.
 - ii. A Suezmax tanker.
 - iii. Panamax 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. Answer **ALL** parts of the question.

Commercial vessels that are trading on international voyages must now carry two types of Low Sulphur conventional fuels unless they use LNG or similar systems or are equipped with scrubber systems.

 - a) Give full details of these two fuels and where each fuel will need to be used
 - b) Using the world map provided show the different ECA, SECA and other restricted areas and the limits of these.
 - c) Describe the operation of the main types of Scrubber systems currently being fitted. Give details of how they operate and what are the possible disadvantages of each.
 - d) Briefly describe what precautions you would take to ensure that you receive good quality bunkers at a competitive price.

PLEASE TURN OVER

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

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

- What quantity of cargo can be loaded?
- Where would you take bunkers and what quantity would you stem. Give your reason for this.
- Calculate the daily net profit for the voyage.

Your vessel will complete discharge at Rotterdam in The Netherlands and is fixed to load Cartagena in Spain for discharge at Recife in Brazil.

DWT 52,498 MT on 12.3 M

Cubic Grain 67,412 M³

Constant incl FW 615 MT

Loaded speed 13 KTS on 23 MT LSFO/GO per day as appropriate

Ballast speed 14 KTS on 23 MT FO or LSFO/GO per day as appropriate

Port consumption 4 MT LSFO/GO per day as appropriate all purposes

Vessel Daily Running Cost \$9,200 per day

Cargo 50,000 MT NPK Fertiliser +/-10% MOLOO (SF 0.99) Cartagena-Recife

No draft restrictions at load port or at other ports. Vessel in Summer zone throughout voyage.

13,000 MT SSHEX at Load 8,000 MT SSHINC at Discharge.

Freight \$22 FIOST per Metric Tonne

Commission 5%.

Bunker ROB on completion of discharge at Rotterdam is expected to be

350MT LSGO/LSFO Max 0.5%S. Cost \$300 pMT

150MT ULSGO Max 0.1%S. Cost \$345 pMT

Intention is to place vessel on spot market at Recife after discharge with the same quantity of bunkers

350MT LSGO/LSFO Max 0.5%S.

150 MT ULSGO Max 0.1%S

All fuel used in SECA and EU ports to be ULSGO Max 0.1%S.

All other areas to be LSGO/LSFO Max 0.5%S.

Vessel must always have sufficient bunkers for four days steaming on board.

Distances

Rotterdam-SECA Limit 420 NM

SECA limit to Cartagena 1495 NM

Cartagena to Recife 4251 NM

Cartagena-Gibraltar (no deviation on ballast or loaded passage routeing) 256 NM

Bunker Prices

Rotterdam available during discharge current cargo

LSGO/LSFO Max 0.5%S. \$374 pMT ULSGO Max 0.1%S. \$417 pMT

Gibraltar on loaded passage no deviation. Delay 6 hours.

LSGO/LSFO Max 0.5%S. \$397 pMT ULSGO Max 0.1%S. \$460 pMT

Recife available during discharge.

LSGO/LSFO Max 0.5%S. \$420 pMT ULSGO Max 0.1%S. \$490 pMT

Port charges

Cartagena \$77,000 Recife \$62,000

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

You are preparing an operating budget for a recently acquired vessel by an owner with a mixed fleet of vessels under your company's management.

- a) Detail the main information you will need about the vessel and why each of these are important.
- b) Give details of the typical costs included in a budget estimate of the daily operating costs.
- c) Explain how you would monitor all these costs during the management of the vessel and what circumstances might arise that could make significant variations to the figures.

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

- a) The STCW Code Part A covers eight mandatory standards that deal with all aspects of maritime employment. What different areas of ship operations do these cover to ensure that all personnel on board the vessel are properly trained and qualified.
- b) How can a shipping company by its own actions ensure that it is able to recruit and retain the highest quality sea staff?

6. 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 international registry (including flags of convenience)?
- d) Give details, validity, and survey cycle of five certificates, necessary for the vessel to trade commercially, that will be issued by this flag and/or by other organisations under its authority?

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

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

8. What are the risks covered under the P&I Clubs Insurance? Give details of **TEN** of these and what is included in each category