



WEDNESDAY 22nd 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, and equipment) of **ONE** of the following types of vessels;
 - i. A Handymax or Supramax bulk carrier.
 - ii. A VLCC tanker.
 - iii. An Ultralarge 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, and 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.

You have been asked by a potential owner to:

- a) Explain the difference between acquisition costs, voyage costs and daily operating costs.
- b) Advise the costs associated with ship ownership.
- c) Identify the main voyage and daily operating costs.
- d) Allocate the following costs for a vessel under your management:
 - i. Light dues.
 - ii. Replacement of radar system.
 - iii. Additional war risk insurance.
 - iv. Garbage services in drydock.
 - v. Mooring boat charges.
 - vi. Tugs going into drydock.
 - vii. Registration fees.
 - viii. Supply of fresh water.

3. Using the following information calculate:

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

Your vessel will complete discharge at Mundra, India and is fixed to load Richards Bay for discharge at Shanghai in China.

Bunker ROB on completion Mundra 1200 MT IFO at \$410 PMT and 160 MT LSGO Max 0.5%S at \$620 PMT. Vessel must have a minimum of 250 MT FO and 100 MT LSGO on board at all times to cover safety margin. Intention is to place vessel on spot market at Shanghai after discharge with 1000 MT FO and with not less than 100 MT LSGO on board. Vessel must use LSFO at Shanghai as per regulations.

SDWT 201,505 MT on 18.5 M No Draft restriction on voyage

Cubic Grain 222,786 M3

Constant incl FW 1100 MT

Loaded speed 12 KTS on 47 MT FO/LSGO per day

Ballast speed 13 KTS on 47 MT FO/LSGO per day

Port consumption 4 MT FO/LSGO per day all purposes

Vessel Daily Running Cost \$16,200 per day

Cargo 160,000 MT Coal 10% MOLOO (SF 1.40) Richards Bay - Shanghai

125,000 MT per day SSHINC at Load/45,000 MT SSHEX at Discharge.

Freight \$14 FIOST per Metric Tonne

Commission 5%.

Distances

Mundra to Richards Bay 3850 NM

Richards Bay to Shanghai 7105 NM

Richards Bay to Singapore 4867 NM

Singapore to Shanghai 2238 NM

Bunker Prices

Mundra HSFO \$440 PMT. No LSGO Available

Richards Bay HSFO \$390 PMT, LSGO \$600 PMT, concurrent with loading

Singapore HSFO \$363 PMT LSGO \$510 PMT Barge cost \$2500. Delay 6 hrs. No deviation.

Shanghai HSFO \$378 PMT

Port charges

Richards Bay \$125,000

Shanghai \$137,000

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

Your vessels are engaged on world-wide trading calling at ports in China, Japan, South Korea, the Mediterranean, Northern Europe and North America. They are not fitted with scrubber systems and burn conventional oil fuels.

In order to meet all current sulphur emission requirements what specific fuels will need to be used on board the vessels when operating in the ECAs, SECAs, and other restricted emission areas?

Give details of all these areas and where they apply. What fuels will vessels need to use in January 2020 when changes to the sulphur emission regulations are expected to come into force and why are these changes considered necessary?

Use the world map provided to show the various ECAs, SECAs, and restricted emission areas to fully support your answer.

5. Define and explain **FIVE** of the following terms or abbreviations.

- a) ISPS Code
- b) NDFCA PMQS
- c) BWM Convention
- d) Sue & Labour Clause
- e) CSR
- f) SEEMP
- g) IMSBC Code

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

7. Your Panamax bulker is fixed to load a max cargo soya beans at Philadelphia USA in September for discharge at Fremantle, Western Australia. The vessel can be routed via the Panama Canal, or the Suez Canal or the Cape of Good Hope, all of which are about the same distance.

What factors would you take into account when deciding which route the vessel should take? What resources are available to assist you in this decision?

Support your answer using the world map provided, showing the possible routes and key features of the voyage.

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