



WEDNESDAY 28TH NOVEMBER - 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 including (dimensions, tonnages, cargo gear) of **ONE** of the following types of vessels:

- i) A CAPESIZE bulk carrier.
- ii) A SUEZMAX tanker.
- iii) New 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

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.

PLEASE TURN OVER

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

Using the following information calculate:

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

Your vessel will complete discharge at Cartagena, Colombia and is fixed to load New Orleans, USA for discharge at Luanda in Angola.

Bunker ROB on completion Cartagena 400 MT IFO at \$390 PMT and 200 MT LSGO Max 0.1%S at \$570 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 Luanda after discharge with 600 MT FO and with not less than 100 MT LSGO on board.

SDWT 53448 MT on 12.5 M No Draft restriction on voyage
Cubic Grain 68,317 M3
Constant incl FW 480 MT
Loaded speed 13 KTS on 26 MT FO/LSGO per day
Ballast speed 14 KTS on 24 MT FO/LSGO per day
Port consumption 4 MT FO/LSGO per day all purposes
Vessel Daily Running Cost \$8,200 per day

Cargo 50,000 MT grain 10% MOLOO (SF 1.34) New Orleans-Luanda
16,000 MT SSHINC at Load/10,000 MT SSHEX at Discharge.
Freight \$21 FIOST per Metric Tonne
Commission 5%.

Distances

Cartagena- Position A 200 NM of US Coast	1230 NM	(Position A is at start of N.A .ECA)
Position A to New Orleans	260 NM	
New Orleans – Position A Outbound	260 NM	
Position A to Luanda	6266 NM	

Bunker Prices

Cartagena HSFO \$420 PMT. No LSGO Available
New Orleans HSFO \$380 PMT, LSGO \$560 PMT, concurrent with loading
Luanda HSFO 440 pmt (after discharge) Barge cost \$2500. No LSGO available.

Port charges

New Orleans	\$60,000
Luanda	\$53,000

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

- a) Explain the role of a classification society in shipping. What services do they offer?
- b) What surveys are required by Class during the life of a vessel?. Under what circumstances might Class be called to inspect the vessel at some other time?
- c) Give details of five certificates issued by Class.

5. Your vessels are engaged on worldwide trading calling at ports in North America, Northern Europe, the Mediterranean, Arabian Gulf and China, Japan and Korea. 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 on board the vessels.

Give details of these and where they will need to be used. Use the world map provided to support your answer.

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

- a) Explain what certificates and documentation a vessel carries to show compliance with the International Safety Management (ISM) code; which bodies issue these certificates and what do these certificates signify?
- b) Explain the role and responsibilities of the DPA with regard to the safe operation of each vessel and the proper implementation of the Safety Management System.

7. You work in the operations department of a company which has the commercial management of a small fleet of panamax vessels. One of your vessels has been chartered for a voyage from Port Kamsar in West Africa to San Ciprian in Northern Spain. The cargo is bauxite 65,000 MT +/-10% basis safe draft load and discharge ports. The vessel is currently discharging grain at Rotterdam.

Using the world map to support your answer.

- a) What information do you need to find out to ensure that the vessel is fully prepared for the upcoming voyage?
- b) Using the above information, draft preliminary voyage instructions/orders to send to the vessel so that the Master has all the information required.
- c) Show the route of the voyage including ballast and laden legs.

PLEASE TURN OVER

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

During loading of cargo at a port one of your managed tankers reports that a valve at the vessel's manifold has fractured spraying crude oil over the vessel, the shore loading rack and into the sea. A shore worker and your crew member have been sprayed about the face with cargo causing some possible breathing and eye injuries. Prompt action by the ship and shore watch in stopping the load has averted a major spill.

- a) What immediate expert assistance will be available for the Master, the manager's emergency response team and the owner?
- b) What actions should the management company now undertake?
- c) In this incident what are the risks covered under the P&I Clubs Insurance? Give details of these and what is included in each category.