



TUESDAY 19th APRIL 2016 – 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 (including dimensions, tonnages, cargo gear) of one of the following types of ship:
 - Capesize bulk carrier;
 - MR product tanker;
 - Ro-Ro.
- b) Draw a side profile and cross section of the ship.
- c) Label the significant parts of the ship.
- 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.

- a) Explain the role of a classification society in shipping. What services do they offer?
- b) To maintain its class what generally is the requirement for inspection by class during the life of a ship and what are these surveys called? Under what circumstances might class be called to inspect the ship at some other time? Why might a potential purchaser of a vessel wish to inspect these survey records?
- c) Give details of five certificates issued by class.

PLEASE TURN OVER

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

One of your ships has been fixed to carry out the following voyage. Using the factors below calculate:

- a) What cargo quantity can be loaded (show calculation);
- b) Where you would organise bunkers, how much would you order and explain your reasons for your choice;
- c) What is the daily net profit you anticipate earning for this voyage?

The vessel *Antares Star*, currently discharging at Kochi, West Coast India. Bunker ROB on completion will be 830 MT. IFO 380 at USD 245 pmt. Intention is to place vessel on spot market after completion next voyage at Busan port with 700 MT IFO380 on board. Vessel must have 5 days appropriate fuel safety margin on board at all times. At load or discharge ports bunkering is concurrent with cargo operations unless advised otherwise. Vessel is permitted by charterer to bunker on voyage. Assume that vessel is in summer zone throughout voyage.

SDWT 72,620 MT on 14.0 SW.
Grain Cubic 84,790 m³, 6 HO/HA
Constant including FW 850 MT
Loaded speed / cons 13 KTS on 36 MT IFO 380
Ballast speed / cons 14 KTS on 33 MT IFO 380
Port consumption 4 MT MT IFO 380
Daily running cost USD \$ 10,600 / day

The Cargo
70,000 MT Alumina 10% MOLOO (SF 0.98) Bunbury, Western Australia-Busan, S Korea.
Max draft load and disport 14.2 M SW.
24,000 SSHEX load/ 16,000 SSHINC disch.
Freight US \$16 PMT Commission 5%.

Distances

Kochi to Bunbury	3,453 nm
Bunbury to Busan	4,576 nm
Bunbury to Singapore	2,406 nm
Singapore to Busan	2,393 nm

Bunker Prices
Kochi - \$295 PMT IFO 380 available after discharge but supply uncertain.
Freemantle, W Australia (close to Bunbury) - \$315 PMT IFO 380. (6 hours bunkering delay)(\$5,000 barge cost) no deviation.
Singapore - \$215 PMT IFO 380 (6 hours bunkering (\$2,000 barge cost)).
Busan - \$255 IFO 380 available after discharge.

Port Costs

Load port	USD 67,000
Discharge port	USD 55,000

PLEASE TURN OVER

4. Your vessel is moored alongside a berth close to completion of discharging a cargo of steel coils. A vessel approaching a berth to moor ahead of you with pilot on board and tugs in attendance loses control and makes heavy contact with your vessel, penetrating a side ballast tank and causing other structural damage in way of No.3 hold. A crewman and two stevedores suffer injuries falling off cargo while working in the hold.
- What immediate action should you expect your crew to take on board your vessel?
 - What resources do you have available in your management office to assist the vessel and the crew?
 - What assistance is available at the port and in the area?
 - What insurances should the vessel have to cover this situation?
5. Your vessel has been fixed to load a solid bulk cargo under the International Maritime Solid Bulk Cargoes (IMSBC) code.
- What information must be given to the vessel to enable the crew to prepare for this?
 - The cargo is a Group A cargo in the code. What specific documentary information must be given by the suppliers/shippers to the vessel prior to loading?
 - What must the vessel agree 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.
 - If the cargo had been Group B in the code what would this mean and what precautions would have had to be taken on board the vessel prior to loading?
6. Answer **BOTH** parts of the question.
- 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?
 - 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. Answer **ALL** parts of the question.

Your Panamax vessel will complete loading a full cargo in Gothenburg, Sweden in early January and is bound for New Orleans, USA.

- What weather would you expect to encounter en route and what choices would you make regarding the route to take? Use the world map provided to support your answer.
- Your company has decided to use a weather routing service for this voyage. What benefits do you expect to gain by using a weather routing service?
- What specific bunker fuels would you have to have on board the vessel in order to meet the various requirements of this voyage and where would you use these.

PLEASE TURN OVER

8. You work in the operations department of a ship management company which has operational control for a small fleet of vessels for an owner. The owner retains chartering of the vessels but all other functions are covered by your company. You have been advised that the owner has concluded a voyage charter fixture.
- a) What information do you need about the fixture?
 - b) What information would you expect to find out from a port agent?
 - c) What are the main requirements of the vessel at the load and discharge ports?
 - d) What should you ensure that you find out from the agent when the vessel arrives at the load port?