

OPERATIONAL PROCEDURES, BASIC HOTEL SERVICES AND SHIP CONSTRUCTION

Attempt ALL questions

Marks for each part question are shown in brackets

1. Explain EACH of the following:
 - (a) Merchant Shipping Notices; (4)
 - (b) Marine Guidance Notes; (3)
 - (c) Marine Information Notes. (3)

2.
 - (a) State SEVEN checks that should be carried out before taking over the machinery space watch from another officer. (7)
 - (b) State the circumstances under which it would be inappropriate for the officer in charge of an engineering watch to hand over responsibility to a relief. (3)

3. With reference to MARPOL Annex V, garbage record book:
 - (a) state the type of vessel to which the regulation applies; (1)
 - (b) list the NINE categories into which garbage is grouped for the purpose of the *garbage record book*. (9)

4. With reference to microbiological contamination of marine gas oil:
 - (a) state the conditions that must be present for the microbes to live and multiply; (2)
 - (b) describe the effect of microbiological growth in the fuel; (2)
 - (c) explain how the contamination may be detected; (2)
 - (d) state how the risk of contamination may be reduced; (2)
 - (e) explain how the contamination may be removed. (2)

5. With reference to sewage treatment plants:
 - (a) describe the biological operating principle of an aerobic sewage treatment plant, explaining the dangers if a supply of oxygen is not present; (8)
 - (b) state how a sufficient supply of oxygen is ensured. (2)

6. (a) Sketch an air conditioning system for use on board ship, labelling ALL components. (5)
- (b) Outline the factors in maintaining the correct conditions for accommodation air conditioning. (5)
7. Explain, with the aid of sketches, the principles of reverse osmosis as a method of producing fresh water. (10)
8. Explain EACH of the following types of motion:
- (a) roll; (2)
- (b) pitch; (2)
- (c) yaw; (2)
- (d) surge; (2)
- (e) heave. (2)
9. Sketch a line diagram of an automatic sprinkler system, labelling the MAIN components. (10)
10. Describe the functions of a double bottom. (10)