B. Tech.

(SEM. IV) EXAMINATION, 2006-07
MARINE AUXILIARY MACHINERY-I

Time : 3 Hours [Total Marks : 100]

Note:
(1) Attempt all questions.
(2) All questions carry equal marks.
(3) In case of numerical problems assume data wherever not provided.
(4) Be precise in your answer.

1 Attempt any two parts: 10x2=20
(a) Sketch a main engine fuel supply system from double bottom storage tank to fuel injectors.
(b) Sketch piping arrangement of bilge system, including its treatment and overboard pumping out to sea.
(c) Sketch a sea water hydrophore system.

2 Attempt any two parts: 10x2=20
(a) Sketch and describe a positive displacement pump. Explain what is backlash clearance?
(b) Enumerate the uses of reciprocating pump on board ship. What is a stripping pump?
(c) What are the precautions to be taken before starting a positive displacement pump?
(d) By means of sketch explain the construction of an impeller of centrifugal pump.

3 Attempt any two parts : 10x2=20
(a) Describe briefly all MARPOL regulations regarding discharge of oily water from a general cargo ship and tankers.
(b) What is oil record book and what entries are to be made in it and by whom?
(c) Enumerate and describe very briefly various type of seawage treatment plant.

4 Attempt any two parts : 10x2=20
(a) Sketch and describe a fresh water Generator of Reverse-osmosis type as used on board ship.
(b) What advantages a reverse-osmosis type Generator has over other type of Fresh water Generator ? What impurities you expect will be found in water, generated from a conventional evaporators and in what range their values in ppm is expected?
(c) What precautions and what preventive maintenance is carried out on a distillation plant?

5 Attempt any two sections : 10x2=20
(a) Enumerate various types of deck machinery used on board ship.
(b) Sketch and describe a windlass.
(c) What are the precautions to be taken while operating a deck crane and also for windlass ?
(d) Sketch and describe an anchoring system of a medium size ship.

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