

Indian Maritime University
(A Central University, Govt of India)
B Sc (Nautical Science)
June 2018 End Semester Examinations
Semester-II
UG21T3205 - Ship Operation Technology

Duration:3 Hrs

Max Marks:70 Marks

Date: 14.06.2018

Pass Marks:35 Marks

Note: Question No 1 is compulsory

Solve any 6 questions form remaining 8 questions (each of 10 marks).

1) Choose the correct answer from the given choices.

(a) The day at sea is divided into six four hours periods(watches).
The period of watch kept by second mate is :

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|-------------------|------------------|
| (i) 0400-0800 h | (ii) 1200-1600 h |
| (iii) 2000-0000 h | (iv) 1600-2000h |

(b) The deliberate throwing overboard of goods and fittings for the preservation of a ship in peril is called :

- | | |
|------------------|---------------|
| (i) Manifest | (ii) Jettison |
| (iii) In-ballast | (iv) Landfall |

(c) The most suitable knot to be used for lowering a man for work over the ship side is:

- | | |
|---------------------|---------------------------|
| (i) Running bowline | (ii) Bowline-on-the-bight |
| (iii) Sheep shank | (iv) Clove hitch |

(d) The strongest of the synthetic fibre rope is made up of :

- | | |
|-----------------|------------------------|
| (i) Terylene | (ii) Nylon (Polyamide) |
| (iii) Polyester | (iv) Polythene |

- (e) The size of the rope is expressed in terms of its _____ in millimeters :
- (i) Radius (ii) No of strands (iii) diameter (iv) Length
- (f) The safe working load of a rope may be taken as _____ of its breaking strain :
- (i) One-fourth (ii) one-sixth
(iii) One-third (iv) one-half
- (g) Whilst in harbour, your ship needs to indicate that persons proceeded ashore should return to the ship. Which of the following flags would you hoist :
- (i) U (ii) V (iii) K (iv) P
- (h) Whilst entering harbour, you wish to indicate to the shore authorities that your ship is **healthy** and requests free **pratique**. Which of the following flags would you hoist :
- (i) D (ii) F (iii) M (iv) Q
- (i) An accommodation ladder should be so designed that the angle of slope is no more than _____ degrees.
(i) 45° (ii) 85° (iii) 55° (iv) 25°
- (j) The amount of earnings from cargo will depend upon:
- (i) Gross Tonnage (ii) Net Tonnage
(iii) Deadweight Tonnage (iv) Displacement Tonnage

(1x10=10 marks)

- 2) (a) What is Boxing the compass ? Box the compass from North-West to North-East via North.
- (b) List the various Personal protective equipment used on board ships. State their purpose.

(2x5=10 marks)

- 3) (a) What are the advantages of synthetic fibre ropes over natural fibre ropes. Briefly explain the care and maintenance of both natural and synthetic fibre ropes.
- (b) What are the precautions to be observed whilst handling wire ropes. (2x5=10 marks)
- 4) (a) Explain the meaning of 6/12, 6/24, 6/37 types of wire ropes
- (b) Explain the purpose of chain stopper. (2x5=10 marks)
- 5) (a) State the meaning of the following flags :
- (i) D (ii) I (iii) K (iv) S (v) U
- (b) (i) What is a substitute flag ? Illustrate the same by an example
- (ii) What is the purpose of courtesy flag? (2x5=10 marks)
- 6) (a) What precautions are required to be taken before entering Enclosed space.
- (b) State the precautions that are required to be observed whilst preparation/ painting interior and enclosed spaces in a ship.
- 7) (a) List the precautions that are necessary to be observed for working aloft and outboard
- (b) List five safe working practices associated with handling storage of Batteries (lead acid & alkaline) in battery compartments on board a ship (2x5=10 marks)
- 8) (a) Write Five precautions required to be observed during anchoring and mooring
- (b) What are the precautions that are required to be taken whilst rigging accommodation ladders (2x5=10 marks)
- 9) (a) Briefly explain the importance of personal health and hygiene on board ships and explain the best practices.
- (b) List Five safety precautions to be observed while bunkering in port. (2x5=10 marks)

