

INDIAN MARITIME UNIVERSITY
(A Central University Government of India)
JUNE 2022 END SEMESTER EXAMINATIONS
Diploma in Nautical Science
SEMESTER – II
NAVIGATION–IV: BRIDGE EQUIPMENT, WATCHKEEPING &
METEOROLOGY
(UD11T5202)

Time: 2 hours

Maximum Marks: 70

Date: 21.06.2022

Pass Marks: 35

Part A –

(10 X 01 Mark)

Q. 1

- i. The most accurate and useful information provided by a Marine radar is
 - a. Bearing
 - b. Range
 - c. Course
 - d. Speed

- ii. Which of the equipment below works in the VHF frequency?
 - a. GPS
 - b. AIS
 - c. LRIT
 - d. RADAR

- iii. Which of the following conventions has prescribed the basic principles for a navigation watch?
 - a. SOLAS
 - b. MLC
 - c. STCW
 - d. COLREG

- iv. Which of the following is not a ship reporting system?
 - a. INSPIRES
 - b. AMVER
 - c. AUSREP
 - d. FISHREP

- v. Two alternately flashing yellow lights in a vertical line is displayed by
 - a. Vessel engaged in fishing using purse seine gear
 - b. Vessel restricted in her ability to manoeuvre
 - c. Air cushion vessel operating in non-displacement mode
 - d. WIG craft when landing or taking off

- vi. Which of the following conditions is considered as restricted visibility
 - a. Unable to see a vessel due to another vessel obstructing the view

- b. Unable to see far off objects due to morning mist
 - c. Unable to see a vessel due to smoke from funnel
 - d. Unable to see clearly due to dirty window glass
- vii. Coriolis force is caused due to
- a. Pressure gradient
 - b. Rotation of Earth
 - c. Gravity
 - d. Seasons
- viii. BNWAS is used
- a. for alerting a sleeping navigator like alarm clock
 - b. for warning about human errors caused by navigator
 - c. to check mental fitness and fatigue levels during watch
 - d. as an extra safety net if watch keeper is disabled
- ix. The day signal cylinder is used by
- a. A vessel not under command
 - b. A vessel constrained by her draft
 - c. A vessel aground
 - d. A vessel engaged in mine clearance
- x. A vessel at anchor uses which sound signal to give warning of her position to an approaching vessel?
- a. one short, one prolonged and one short blast
 - b. Continuous ringing of the bell
 - c. One prolonged, two short blasts
 - d. Four or less short blasts

Part B –

(05 X 02 Marks)

Q. 2

- (i) What is the composition of a Bridge team under different manning levels?
- (ii) Define Range and Bearing discrimination of a Marine Radar.
- (iii) What is the technical specifications of ball, cylinder and cone of day shapes according to ROR Annex-I?
- (iv) Draw the Mast head light and Stern navigation lights according to Rule-21 of ROR.
- (v) State the Buy Ballots law.

Part C – Answer Any 5 out 7 Questions.

(5 X 10 Marks)

- Q. 3**
- a. Briefly explain the different errors of the GPS.
 - b. Explain DGPS and how is it useful to the merchant vessels?

(2X5 Marks)

- Q. 4** Explain different types of logs maintained on Ship and the entries made in them. **(10 Marks)**
- Q. 5** List out the circumstances under which you must call the Master to Bridge during your watch. **(10 Marks)**
- Q. 6** As per STCW, describe the basic principles to be observed when keeping a Navigational watch. **(10 Marks)**
- Q. 7** List out the various Distress signals as described in Rule-37 and Annex-IV of the Colregs. **(10 Marks)**
- Q. 8** When does Rule no.19 of ROR apply? What does it say about the Do's and Don'ts in the following situations?
- a) When a vessel detects by radar alone the presence of another vessel
 - b) When a vessel hears the fog signal of another vessel
- (2X5 Marks)**
- Q. 9** List out the types of clouds separated according to their height above sea level and briefly explain the four ways in which clouds are formed. **(10 Marks)**

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