

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – June 2023
Programme Name: B Tech (NAOE)
Semester: IV
Subject Code: UG12T2404
Subject Name: Physical Oceanography

Date: 02.06.2023

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.

Section A

Ten MCQs/Fill in the Blanks of 01 Mark each – Choose the correct answer as applicable.

1. Average Depth of oceans in meters

- a) 4000
- b) 3700
- c) 3000
- d) 4700

2. In density profile - layer in which sharp increase in the density is seen is called

- a) Thermocline
- b) Halocline
- c) Pycnocline
- d) Mixed layer

3. Low salinity waters are called

- a) Brine waters
- b) Diluted waters
- c) Hyper saline
- d) Brackish waters

4. Most abundant element in the sea water

- a) Cl
- b) Na
- c) Mg
- d) Ca

5. During wave transformation ____ is unchanged
- Wave length
 - Amplitude
 - Wave speed
 - Time period
6. Basin wide large circular rotation of water is called
- Gyre
 - Eddy
 - Whirlpool
 - Twill
7. Largest tidal range in the world can be found at
- Gulf of Kutch
 - Bay of Fundy
 - Sundarbans
 - Palk strait
8. Tsunami is a
- Shallow water wave
 - Gravity wave
 - Both Shallow water and gravity wave
 - None
9. Wave convergence zones are prone to
- Deposition
 - Erosion
 - Either deposition and erosion
 - Can't say
10. Canyons can be found in
- Abyssal planes
 - Trenches
 - Valleys
 - Continental slopes

Section B

Five Questions of 02 Marks each

11. What is SOFAR channel and write its importance
12. What is the importance of Buoys in the ocean observation
13. Plot Temperature profile and identify various layers in it
14. What is coastal upwelling and how it is useful

15. What are spring and neap tides and how do they form

Section C

Seven Questions of 10 Marks each of which any 05 questions to be answered.

16. What is salinity? Explain various factors affecting ocean salinity. Plot a neat sketch of typical salinity profile and identify various layers.

17. What is global warming and list out the various causes of it? Write some innovative methods to reduce the global warming.

18. Discuss about the surface current patterns of North Indian Ocean.

19. What is tsunami? Derive the average speed of tsunami waves in the ocean.

20. Write an essay on importance of monitoring tides and tidal currents in the management of vessel traffic in any port.

21. Plot the diagram of continental margin and identify various portions and explain each portion in detail.

22. What is sediment and how the sediment transport takes place along coast.

