

**INDIAN MARITIME UNIVERSITY**  
(A Central University, Government of India)

**Entrance Test for Admission to Ph.D / Integrated Ph.D / MS (By Research)**

**MODEL QUESTION PAPER**

Subject Name: **OCEAN ENGINEERING**

Maximum Marks: 50

**There will be 50 questions and each question carry 1 mark.**

---

Students are required to choose the answer nearest to the correct answer from the multiple choices given for each question.

---

1. The net alongshore sediment transport along the East coast of India is towards the \_\_\_\_\_ direction
  - a. North
  - b. South
  - c. East
  - d. West
  
2. For a floating body, the weight of the displaced water is equal to the \_\_\_\_\_
  - a. Weight of the portion under water
  - b. Weight of an equivalent volume of solid
  - c. Weight of the floating body
  - d. None of the above
  
3. Which of the following is considered as a soft solution against coastal erosion?
  - a. Groin
  - b. Sea Wall
  - c. Sand nourishment
  - d. Breakwaters
  
4. Which one of the following is not related to Geophysical survey
  - a. Side Scan sonar
  - b. Cone penetrometer
  - c. Magnetometer
  - d. Sub bottom profiler

5. What happens to the ocean as depth increases (as you go deeper)?
  - a. Temperature and pressure decrease
  - b. Temperature and pressure increase
  - c. Temperature increases and pressure decreases
  - d. Temperature decreases and pressure increases
  
6. What part of a tidal cycle has minimal current?
  - a. Ebb tide
  - b. Slack tide
  - c. Lunar tide
  - d. Flood tide
  
7. Suction pile is
  - a. used as mooring anchor in deep water
  - b. a hammer driven pile
  - c. a pile capable of withstanding negative skin friction in marine clays
  - d. a pile made of timber
  
8. Linear wave theory is also called as ----- wave theory.
  - a. Stokes
  - b. Airy's
  - c. Cnoidal
  - d. Trochoidal
  
9. What is the name for the process by which wave height changes as they enter shallow water?
  - a. Diffraction
  - b. Refraction
  - c. Shoaling
  - d. Reflection
  
10. Which one of the following is generally not used in deep waters beyond 500m
  - a. Jacket platforms
  - b. Tension leg platforms
  - c. SPARS

d. FPSO

11. Which of the following pair is correctly matched?

- |                      |                              |
|----------------------|------------------------------|
| A. Morison equation  | I. Wave spectrum             |
| B. P-Y curve         | II. Sea State                |
| C. Pierson-Moskowitz | III. Wave load on structure  |
| D. Douglas           | IV. Lateral capacity of Pile |

- a. A-III, B-II, C-I, D-IV  
b. A-III, B-IV, C-I, D-II  
c. A-III, B-IV, C-IV, D-I  
d. A-I, B-II, C-III, D-IV

12. In the open sea, the salinity is less variable, having an average value of about \_\_\_\_\_%

- a. 2  
b. 2.5  
c. 3  
d. 3.5

13. Suez Canal connects between \_\_\_\_\_

- a. Caspian Sea and Red Sea  
b. Mediterranean Sea and Black Sea  
c. Red Sea and Mediterranean Sea  
d. Atlantic Ocean and Pacific Ocean

14. Exclusive Economic Zone of India extends out to \_\_\_\_\_ nautical miles from the coast

- a. 100  
b. 200  
c. 250  
d. 300

15. Under the CRZ notification of Government of India, environmentally most critical areas fall under ----- classification.

- a. CRZ – 1  
b. CRZ – II  
c. CRZ – III  
d. CRZ – IV

16. In which one of these sedimentary basins, confirmed Gas hydrates reserves are available?

- a. Ganga
- b. Krishna-Godavari
- c. Cauvery
- d. Palar

17. Diaphragm walls are used for the construction of

- a. Offshore breakwaters
- b. FPSO
- c. Quays
- d. SPARS

18. Which one of the following is a Hydraulic dredger?

- a. Grab bucket dredger
- b. Cutter suction dredger
- c. Dipper dredger
- d. Bucket ladder dredger

19. Under which condition does the Liquefaction of sea bed soils cannot occur?

- a. fine sand
- b. coarse silt
- c. very dense sand
- d. vibratory loads

20. After swell wave “touches bottom” upon approaching the shore, which of the following does not occur?

- a. wave length decreases
- b. wave velocity decreases
- c. wave steepness decreases
- d. wave height increases