

SMS-303: Integrative marine sciences, physics (5544).

Quiz Lab 3.

- 1. Tides in Gulf of Maine (and northern hemisphere):**
 - a. propagate from deep to shallow areas.**
 - b. propagate with coast on right hand side.**
 - c. propagate from shallow to deep areas.**
 - d. propagate with coast on left hand side.**

- 2. Tides:**
 - a. are mostly a consequence of lunar gravitational attraction.**
 - b. are mostly a consequence of solar gravitational attraction.**
 - c. are mostly a consequence of lunar gravitational repulsion.**
 - d. are mostly a consequence of solar gravitational repulsion.**

- 3. When computing tides:**
 - a. it is sufficient to calculate one harmonic component.**
 - b. one needs to calculate several harmonic component.**
 - c. one needs to calculate at least 100 harmonic component.**
 - d. one needs a tide machine.**

- 4. When responding oil spills:**
 - a. Tides should be ignored.**
 - b. Wind should be ignored.**
 - c. Type of chemical in spill should be ignored.**
 - d. None of the above.**

- 5. Tides:**
 - a. are the same as tsunamis (tidal waves).**
 - b. are free waves.**
 - c. are forced waves.**
 - d. are plane waves.**

6. Tides:

- a. are affected by rotation.**
- b. vary in amplitude in different locations.**
- c. can be decomposed to different sine and cosine functions (harmonics).**
- d. all of the above.**

7. Tides:

- a. are predictable using historical data of surface height.**
- b. are predictable using theory.**
- c. are predictable using historical data of surface temperature.**
- d. None of the above.**

8. An amphidromic point:

- a. where all the tides meet.**
- b. where the tidal amplitude is maximum.**
- c. where the tidal amplitude is zero.**
- d. None of the above.**

9. Tides:

- a. do not propagate up estuaries that are significantly above sea level.**
- b. do not propagate into fresh water rivers.**
- c. propagate up estuaries that are significantly above sea level.**
- d. None of the above.**

10. Tides:

- a. Have important marine biological impact (e.g. encounter of organisms).**
- b. Have important marine geological impact (e.g. sediment movement).**
- c. Have important marine chemical impact (e.g. mixing).**
- d. All of the above.**