

B - Water Quality Fall 2020 - Nov 7 Country-wide SO Practice - 11-07-2020

Please read the following questions carefully and choose the best answer. Good Luck!!!

1. (1.00 pts) The fact that the ocean absorbs carbon dioxide is thought by scientist to be a purely positive phenomenon.

- True False

2. (1.00 pts) Estuaries are extremely productive environments primarily because:

- A) Nutrient input from freshwater
 B) Nutrient input from saltwater
 C) Mixing of fresh and salt water
 D) The recycling of nutrients in estuaries
 E) The waste from the high numbers of animals living there

3. (1.00 pts) Which one of the following zones is found in the photic zone:

- A) Hadal
 B) Mesopelagic
 C) Bathypelagic
 D) Abyssal
 E) None of the above

4. (1.00 pts) The type of coral that creates the foundation of most coral reefs is:

- A) Worm coral
 B) Hermatypic
 C) Ahermatypic Corals
 D) All of the above
 E) None of the above

5. (1.00 pts) Salt-wedge estuary are found where:

- A) There is a lot of circulation in the estuary
 B) A large river flows directly into saltwater
 C) A large river flows directly into a large bay
 D) A small river flows directly into a small bay
 E) Very shallow estuaries

6. (1.00 pts) 1) What is two tidal cycles per 24 hours

- A) 24 hours and 50 minutes
 B) Semi-diurnal
 C) Diurnal
 D) Ebb
 E) Small difference between high and low tide

7. (1.00 pts) The polyp stage of a coral can produce using which of the following methods:

- A) Budding
- B) Fission
- C) Sexually
- D) Asexually
- E) All of the above

8. (1.00 pts) What is a falling tide?

- A) 24 hours and 50 minutes
- B) Semi-diurnal
- C) Diurnal
- D) Ebb
- E) Small difference between high and low tide

9. (1.00 pts) Which are the major types of phytoplankton in warmer waters?

- A) Dinoflagellates
- B) Diatoms
- C) Green algae
- D) Copepods
- E) Blue-green algae

10. (1.00 pts) Birds are considered part of the nekton community

- True False

11. (1.00 pts) Compared to other areas of the ocean, the abyssal zone has more of which of the following?

- A) Autotrophs
- B) Predators
- C) Zooplankton
- D) Detritivores
- E) Secondary consumers

12. (1.00 pts) Waves can be formed by which of these?

- A) Wind
- B) Earthquakes
- C) Landslides
- D) None of the above
- E) A, B, and C

13. (1.00 pts) What is a neap tide?

- A) 24 hours and 50 minutes
- B) Semi-diurnal
- C) Diurnal
- D) Ebb
- E) Small difference between high and low tide

14. (1.00 pts) Which of the following is NOT true for kelp forests?

- A) Occur in cold, nutrient-rich water of shallow open coastal waters
- B) Are not dependent on light for their production
- C) They are rarely much deeper than 15-40 m
- D) Kelp plants attach to the rocky bottom with tough holdfasts
- E) Some species can grow 30 cm per day

15. (1.00 pts) What type of habitat is best represented by chord grass, pickleweed, salt grass, eel grass, and purple loosestrife?

- A) Rocky shoreline
- B) Deep-water swamps
- C) Sand Flats
- D) Salt Marsh
- E) Salt Pan

16. (1.00 pts) Which invasive species has posed a serious threat to the San Francisco Bay?

- A) Asian carp
- B) Chinese mitten crab
- C) Northern snakehead
- D) Zebra mussel
- E) All of the above

17. (1.00 pts) Across most of the world there is 1 high tide and 1 low tides in approximately 24 hours.

- True
- False

18. (1.00 pts) Which of the following factors explain why coastal estuaries are one of the most impacted habitats on earth?

- A) Coastal development
- B) Dam Construction
- C) Climate change
- D) None of the above
- E) A, B, and C

19. (1.00 pts) What is one low and one high tide per 24 hours?

- A) 24 hours and 50 minutes
- B) Semi-diurnal
- C) Diurnal
- D) Ebb
- E) Small difference between high and low tide

20. (1.00 pts) Which of the following is NOT true of estuaries:

- A) Estuaries are nurseries of the sea because juvenile forms of many marine animals live and feed in estuaries before returning to the sea
- B) The most important primary producers in estuaries are phytoplankton
- C) Most fish species that live in estuaries or move into them for feeding are bottom oriented in their feeding patterns
- D)

Most fish species that live in estuaries or move into them for feeding are bottom oriented in their feeding patterns D) Deposit feeders, such as the various kinds of worms found in the estuary

- E) All of the above are true, so there is no correct answer offered.

21. (1.00 pts) During a new moon the tides would be:

- A) Very high and low
- B) Only moderately high and low
- C) Very high and not very low
- D) Very low and not very high
- E) None of the above

22. (1.00 pts) Infauna live on the ocean bottom.

- True
- False

23. (1.00 pts) Which of the following never represent part of the meroplankton community?

- A) Sea urchins
- B) Sea stars
- C) Copepods
- D) Fish
- E) Marine worms

24. (1.00 pts) Which of the following is NOT true about the neritic zone?

- A) It is generally near shore
- B) It is generally productive
- C) It is beyond the continental shelf
- D) It is generally well-illuminated
- E) It includes coral reefs

25. (1.00 pts) Phytoplankton are the primary producers of the pelagic region.

- True
- False

26. (1.00 pts) Today the ocean absorbs about what percent of carbon dioxide?

- A) 5%
- B) 10%
- C) 25%
- D) 50%
- E) 75%

27. (1.00 pts) What is a tidal cycle?

- A) 24 hours and 50 minutes
- B) Semi-diurnal
- C) Diurnal
- D) Ebb
- E) Small difference between high and low tide

28. (1.00 pts) Which of the following is NOT required for coral reef formation?

- A) A solid structure for the base with a hard substrate for attachment
- B) Warm and predictable water temperatures High Light Levels
- C) Clear water
- D) High levels of nitrogen

E) All of the above are needed

29. (1.00 pts) What is the estimated range in US dollars of the annual economic value of coral reefs?

- A) 30 billion to 170 billion
 B) 40 billion to 180 billion
 C) 50 billion to 190 billion
 D) 60 billion to 200 billion
 E) 70 billion to 210 billion

30. (2.00 pts) Corals have a structure called a polyp, which possesses stinging cells. These stinging cells are called _____.

nematocysts

31. (2.00 pts) All corals belong to the phylum _____.

Cnidaria

32. (3.00 pts) Why are reef-building corals only found in shallow tropical and subtropical waters?

Expected Answer: Because the algae in their tissues need light for photosynthesis and they prefer water temperatures in the range from 70 to 85 degrees F.

33. (3.00 pts) Describe what happens with "coral bleaching".

Expected Answer: Coral polyps lose their symbiotic algae, the zooxanthellae. The stony white skeleton of the coral is visible as the living tissues are nearly transparent, which are normally hidden by its zooxanthellae.

34. (3.00 pts) Describe how some fish benefit coral reefs.

Expected Answer: Fish that eat seaweeds and keep them from smothering corals, which grow more slowly than the seaweeds. Fish also eat the predators of corals, such as crown of thorns starfish.

35. (3.00 pts) Salt water and fresh water meet in an estuary, commonly forming a "salt wedge". What is a salt wedge and why does it form?

Expected Answer: Fresh water floats on top of salt water is a "salt wedge". This forms due to the higher density of salt water and the lower density of fresh water.

36. (8.00 pts) Name the four types of estuaries. 1 point for each correctly named.

Give a short description of how each are formed. 1 point for each correct characteristic.

Expected Answer: · Coastal plain estuaries were formed as the rising sea invaded existing river valleys. · Fjords are steep-walled valleys created by glaciers. · Tectonic estuaries are formed when geologic faulting or folding results in a depression, which is then flooded by the ocean. · Bar-built estuaries are separated from the ocean by barrier beaches lying parallel to the coastline.

37. (8.00 pts) Name the categories of plankton. 1 point each.

Give a short description of each category. 1 point each.

Expected Answer: Plankton are subcategorized based on whether they are plants (phytoplankton) or animals (zooplankton), and whether they remain plankton for their entire life (holoplankton) or just part of their life, usually as larvae (meroplankton).

38. (4.00 pts)

Pollutants can come into estuaries from point or non-point sources. Explain why it is difficult to manage non-point sources of pollution and give examples of non-point sources of pollution.

Expected Answer: Non-point sources are widely distributed and not concentrated sources. Some examples are pesticides from farmland or auto oil from road runoff. The grader will exercise judgement

39. (3.00 pts) Briefly describe the economic value of coral reefs to humans.

Expected Answer: Coral reefs are a source of food, medicines, and tourism.

Thank you for participating.
