

Answer the Following Questions:

Question ONE:

(16 marks)

Put ✓ or × and correct the false

1. Scientific researches suggest that most marine mammals live in tropical region.
2. Cetaceans are more closely related to ruminant artiodactyls than ruminants are to pigs.
3. The Mysticete species diversity is larger than Odontocetes.
4. Although the high diversity of cetaceans, digestion is similar between species.
5. Sound moves faster underwater than through the air.
6. Females are slightly larger than males within the Balaenidae family.
7. The throat grooves are present in all mysticete species.
8. Bowhead whales showing polygamous behavior with a gestation period of twelve to sixteen months.
9. Marine reptiles are oviparous.
10. The Common Minke Whale is generally distributed throughout the southern hemisphere, while the Antarctica Minke Whale is distributed in the northern hemisphere.
11. *Delphinus delphis* (Short-beaked common dolphin) are less abundant than *Delphinus capensis*.
12. All five species of the genus *Stenella* inhabit warm tropical to subtropical waters within their regions.
13. The mink whale is the loudest animal in the world.
14. Sperm whales are cosmopolitan species
15. The whales have a lower fat content than buffalos.
16. Breeding of *Megaptera novaeangliae* usually takes place in the spring months.

Question TWO:

(17 marks)

Choose the correct answer

- 1- Which characteristic is not shared by all marine mammals?
a) hair on body b) warm-blooded c) echolocation
- 2- What special ability do dolphins and toothed whales use to locate food and "see" underwater?
a) Echolocation b) Lateral line c) Electoreception
d) Sonar
- 3- To feed, some whales use baleen to strain small, mostly microscopic organisms from the ocean. Baleen is strong and flexible and made of a protein called keratin, the

same thing that makes up human fingernails and hair. Rows of plate-like structures made of baleen hang down from the whale's upper jaw like curtains to strain or filter ocean water for food. What do you think baleen whales eat?

- a) Gulls, osprey, albatross, and other seabirds
- b) Large fish like swordfish, tuna, and sharks
- c) Hot wings and hamburgers
- d) Krill, small fish, copepods, and other zooplankton

4- Some Cetacean species do not show clear migratory paths but are seasonal migrators. This is the case with the Atlantic Bottlenose Dolphin which seems to migrate when

- a) food sources decrease
- b) escaping from predator
- c) the weather becomes worse
- d) the reproduction season start

5- Which of the following assertions are true?

- a) Cetaceans evolved from land mammals
 - b) The ancestors of cetaceans always inhabited the sea
 - c) Cetaceans evolved from a now extinct warm-blooded fish
 - d) Baleen whales (Mysticeti) are believed to have evolved from reptiles
- Complete the missing parts

6- The most familiar of the dolphin species is the

- a) Common Dolphin
- b) Spotted Dolphin
- c) White-sided
- d) Bottlenose

7- Why do whales breach?

- a) it's a mating ritual
- b) they are playing
- c) it's an attack mechanism
- d) it's a defense mechanism

8- Why do whales beach themselves?

- a) they are very sick
- b) they are swimming away from predators
- c) science does not have an answer
- d) they are following their food

9- It focuses the sound as it transmits.

- a) nasal pugs
- b) melon
- c) blowhole
- d) Lower jaw

10- What of the following sentences are true about Humpback Whales?

- a) They are living in groups, which appear to be large groups during feeding. These group numbers seem to reduce as migration starts.
- b) During spring, summer, and autumn they will spend their time feeding, and during winter they do not feed but spend their time in the warmer waters for breeding and giving birth
- c) They are an opportunistic feeder and will thrive on plankton, small and large fishes.
- d) The olfactory senses are reduced, and the eyes are very small, with a very narrow auditory passage

11- What of the following sentences are true about Gray Whales?

- a) They can be found in the North Pacific Ocean with populations in both the east and the west.

- b) they have a short dorsal fin.
 - c) The lower jaw is longer than the upper jaw.
 - d) they thrive as a bottom feeder
- 12- What of the following sentences are true about the species of Family Delphinidae?
- a) The dorsal fin is present on a streamlined body. The species in this family all have teeth that are peg-like and pointed.
 - b) They thrive in oceans and seas only.
 - c) they are relatively small, ranging from 1 to 2 m in length.
 - d) they have pointed pectoral fins
 - e) All have a gestation period of around twelve months and will give birth to only on the calf which is born head first
- 13- Genus Delphinus (Common dolphins) is characterized by the following:
- a) This genus is extremely sociable and can live in groups ranging from 100 to 100,000 individuals.
 - b) All species will feed on small fish such as herring, sardines, pilchards, squid, and octopus.
 - c) they are relatively small, ranging from 1 to 2 m in length.
 - d) Courtship consists of fast swimming, rubbing of fins, swimming alongside each other, and males will chase the females
 - e) Gestation is approximately ten to twelve months, and sexual maturity is reached at around twelve to fifteen years of age
- 14- What of the following sentences are true about sperm Whales?
- a) Females and bulls live together in groups.
 - b) The S-shaped blowhole is located very close to the front of the head.
 - c) The sperm whale's flukes are triangular and very thick. Proportionally, they are larger than that any other cetacean and are very flexible.
 - d) The sperm whale's lower jaw is very narrow and underslung with 18 to 26 teeth on each side
 - e) Sperm whales are among the most cosmopolitan species
 - f) Sperm whales are polygynandrous

Question THREE:

(18 marks)

Answer the following items:

- 1- What physical and physiological characteristics do whales have?
- 2- Cetaceans are significant to man, discuss?
- 3- The deep-diving adaptations in sperm whales are interesting, comment?

Question FOUR:

(19 marks)

Complete the missing parts:

- The baleen plates are(1).....
- The Cetaceans second chambered stomach is known as(2)..... and its function is(3).....
- An intestinal secretion found in whales that are used in very expensive perfumes(4).....
- The marine animal which has no known natural predators is(5).....
- The pathway for air to come in and out of the whale is the(6).....

- In this whale, the dorsal fin is black and is small, with the pectoral fins measuring up to a third of the body length.....(7).....
- This whale has a blunt rostrum, short dorsal fin, live solitary or pods of two to three individuals, and 9 m blowhole.....(8).....
- It is the smallest whale within the baleen group.....(9).....
- All Delphinidae species have a fatty lump on their forehead, which creates a distinctive bulge that is believed to assist in.....(10).....
- It is a solid waxy waste product sometimes present in the digestive system of the sperm whale, is still highly valued as a fixative in perfumes.....(11).....
- Atop the whale's skull is positioned a large complex of organs filled with a liquid mixture of fats and waxes called(12)...
- Sperm whales feed on(13)...
- Sperm whales increase levels of primary production and carbon export by.....(14).....
- This group of Marine Mammals is comprised of Seals, Sea Lions, and Walruses(15).....
- The whales of Family Balaenidae characterized by(16).....,(17).....
- A highly expensive, solid, waxy, flammable substance produced in the digestive system of sperm whales.....(18).....
- The dolphins use it to determine size, distance, and shapes of underwater objects(19).....

With Best Wishes

Dr. Wael El Tahamy

Head of Department: Prof. Dr. Ola AbuSamak