



## EXAM PAPERS PRACTICE

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Level: HL IB in Biology  
Subject: Biology  
Topic: IB HL Biology  
Type: Topic Question

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All International Baccalaureate IB Topic Questions HL Biology

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**BIOLOGY**

**HL - IB**

Key skills

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**\*\*Question 1\*\***

Which of the following is not an important reason for the binomial system of naming organisms?

- A. Scientists need to be able to communicate clearly with each other about their work.
- B. The common names of many species are outdated and should no longer be used.
- C. Different countries may use the same common name for different species.
- D. Woodlice are known by more than 50 different common names.

[1 mark]

**\*\*Question 2\*\***

Which of the following are reasons for the development of the three domain system of classification?

- I. The prokaryote family was too large and needed to be divided into smaller taxa.
- II. The ribosomes of the archaea are distinct from those of the rest of the prokaryotes.
- III. The archaea share a similar cell structure to the rest of the prokaryotes.

- A. I and II only
- B. II only
- C. II and III only
- D. I, II, and III

[1 mark]

**\*\*Question 3\*\***

Which of the following species are most closely related?

- I. Marsh tit (*Poecile palustris*)
- II. Coal tit (*Periparus ater*)
- III. Marsh warbler (*Acrocephalus palustris*)
- IV. Willow tit (*Poecile montanus*)

- A. I and II
- B. I and III
- C. I and IV
- D. II and IV

[1 mark]

**\*\*Question 4\*\***

The data below shows the number of DNA base sequence matches found between four species of marine mammal when a short section of their DNA is sequenced.

	Humpback whale	Sperm whale	Harbour porpoise	Bottlenose dolphin
Humpback whale				
Sperm whale	62			
Harbour porpoise	59	59		
Bottlenose dolphin	56	53	62	

What can be concluded from the data?



- A. Sperm whales are more closely related to humpback whales than they are to harbour porpoises or bottlenose dolphins.
- B. Harbour porpoises are more closely related to humpback whales than they are to sperm whales.
- C. All four species are more closely related to each other than they are to other marine mammals.
- D. All four species together form a clade.

[1 mark]

**\*\*Question 5\*\***

Which of the following is not a feature of a clade?

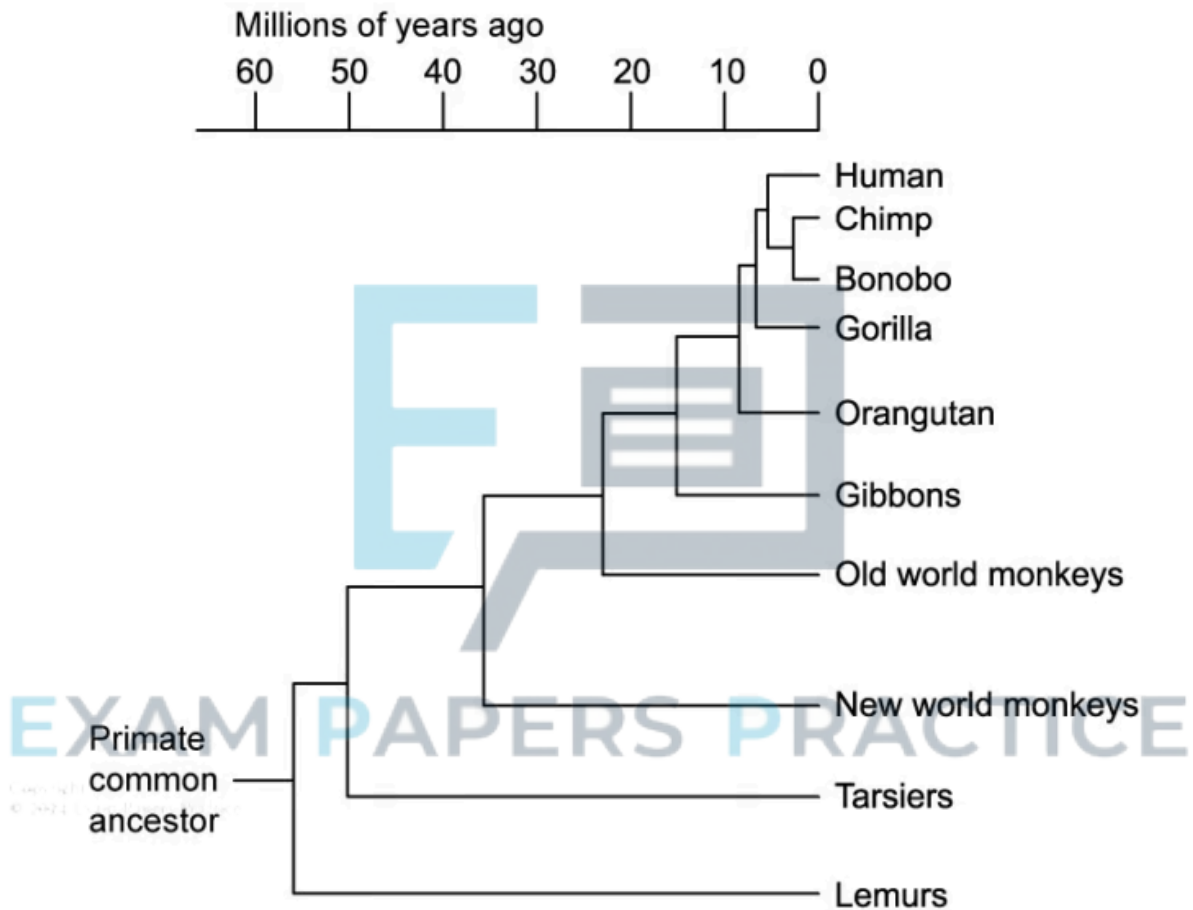
- A. All members of a clade descend from a common ancestor.
- B. Clades are formed on the basis of evolutionary relationships.
- C. Clades are usually identified by observing homologous characteristics.
- D. Clades must include all the descendants of a common ancestor, living and extinct.

[1 mark]



**\*\*Question 6\*\***

Which of the following **cannot** be concluded from the cladogram below?



- A. Chimps and bonobos are more closely related to each other than to any other species of primate.
- B. Chimps, bonobos, humans, and gorillas form a clade.
- C. Lemurs diverged from the rest of the primates around 56 million years ago.
- D. Chimps, bonobos, humans, and orangutans form a clade.

[1 mark]