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# BIOLOGY

# **BOOKS - NCERT BIOLOGY (ENGLISH)**

# **EVOLUTION**

Multiple Choice Question Mcqs

**1.** Which of the following is used as an atmospheric pollution indicator?

# A. Lepidoptera

- B. Lichens
- C. Lycopersicon
- D. Lycopodium

### Answer: B

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The theory of spontaneous generation stated that

A. life arose from living forms only

- B. life can arise from both living and nonliving
- C. life can arise from non-living things only
- D. life arises spontaneously, neither from

living nor from the non-living

Answer: C

**3.** Animal husbandry and plant breeding programmers are the examples of

A. reverse evolution

B. artificial selection

C. mutation

D. natural selection

## Answer: B

4. Palaentological evidences for evolution refer

to the

A. development of embryo

B. homologous organs

C. fossils

D. analogous organs

Answer: C

5. The bones of forelimbs of whale, bat, cheetah and man are similar in structure, because.

- A. one organism have given rise to another
- B. they share a common ancestor
- C. they perform the same function
- D. the have biochemical similarities

Answer: B

6. Analogous organs arise due to

A. divergent evolution

B. artificial selection

C. genetic drift

D. convergent evolution

Answer: D

**7.**  $(p_q)^2 + 2pq + q^2 = 1$  represents an

equation used in

A. population genetics

**B.** Mendelian genetics

C. biometrics

D. molecular genetics

#### Answer: A

8. Appearance of antibiotic-resistant bacteria

is an example of

A. adaptive radiation

**B. transduction** 

C. pre-existing variation in the population

D. divergent evolution

Answer: C

9. Evolution of life shows that life had a trend

of moving from

A. land to water

B. dryland to wet land

C. fresh water to sea water

D. water to land

Answer: D

10. Viviparity is considered to be more evolved

because

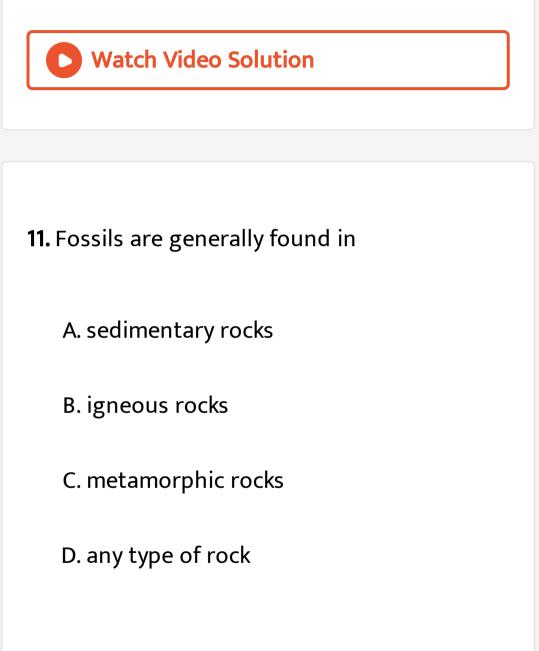
- A. the young ones are left on their own
- B. the young ones are protected by a thicks

shell

C. The young ones are protected inside the mother's body and are looked after they are born leading to more chances of survival

D. the embryo takes a long time to develop





Answer: A



**12.** For the MN-blood group system. The frequencies of M and N alleles are 0.7 and 0.3, respectively. The expected frequency of MN-blood group bearing organisms is likely to be

A. 42~%

 $\mathsf{B.}\,49~\%$ 

C.9%

D. 58~%





**13.** Which type of selection is industrial melansim observed in moth, Biston betularia?

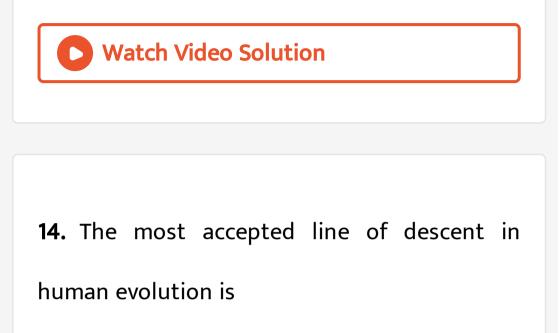
A. Stabilising

**B. Directional** 

C. Disruptive

D. Artificial

### Answer: B

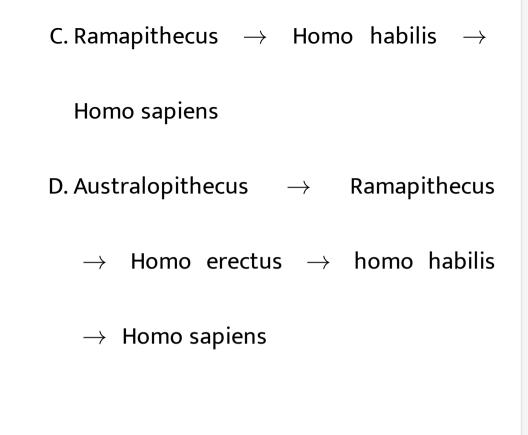


A. Australpithecus  $\rightarrow$  Rampithecus  $\rightarrow$ 

Homo sapiens  $\rightarrow$  Homo habills

B. Homo erectus ightarrow Homo habilis ightarrow

Homo sapiens



#### Answer: C

15. Which of the following is an example for

link species?

A. Lobe fish

B. Dodo bird

C. Sea weed

D. Chimpanzee

Answer: A

## 16. Match the scientists listed under Column 'A'

with ideas listed under column 'B'

Column I	column II
Darwin	$(i) { m Abiogenesis}$
Oparin	(ii)Use and disuse of organs
Lamrack	(iii) continental drift theory
Wagner	(iv)Evolution by natural selection

A.	A	B	C	D
	1	4	2	3
Β.	A	B	C	D
	4	1	2	3
			$C \ 3$	
C.	$A \ 2$	B $4$		D1

### Answer: B



**17.** In 1953 S.L. Miller created primitive earth conditions in the labortory and gave experimental evidence for origin of first form of life from pre-existing non-living. Organic molecuels. The primitve earth condition created include.

A. low temperature, volcanic storms, atmosphere rich in oxygen

B. low	temperature	, volcan	ic storms,			
reducing atmosphere						
C. high temeprature, volcanic storms, non-						
reducing atmosphere						
D. high	temperature	e, volcan	ic storms,			
redu	cing atmo	sphere	containing			
$CH_4, NH_3$ etc.						

Answer: D

**18.** Variations during mutations of meiotic recombinations are

A. random and directionless

B. random and directional

C. random and small

D. random, small and directional

Answer: A

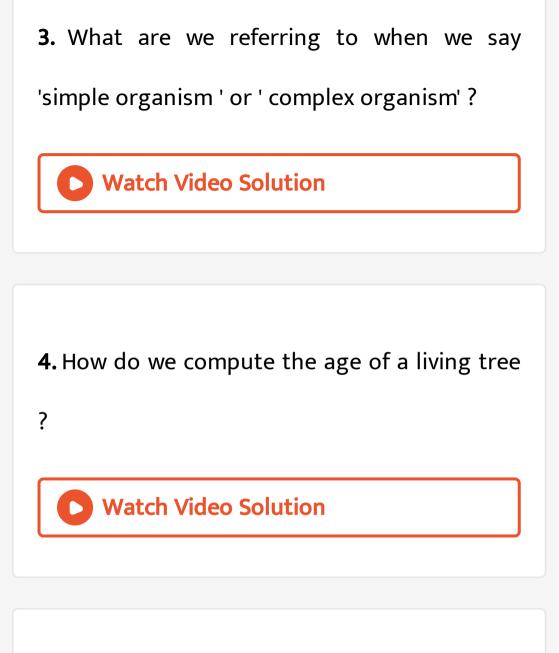
1. What were the characteristic of life forms

that had been fossilised ?

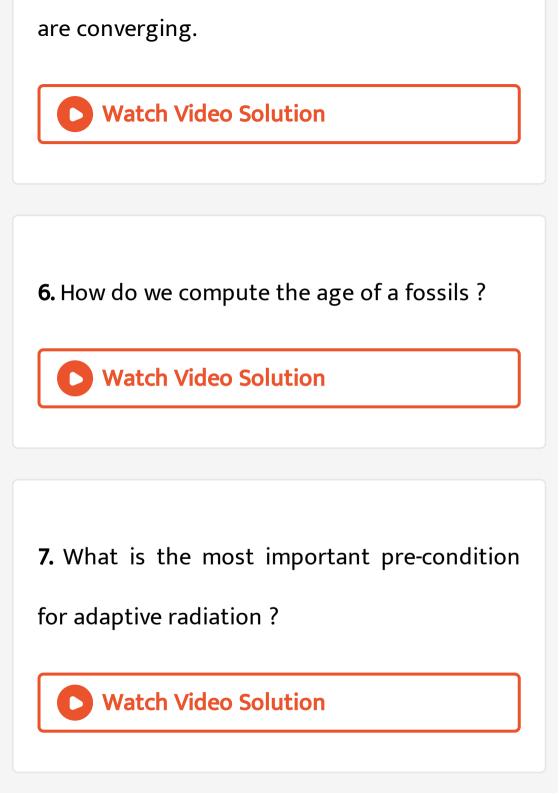
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2. Did aquatic life get fossilised ? If, yes where

do we come across such fossils.?



**5.** Give an example for convergent evolution and identify the features towards which they



8. How do we compute the age of a rock?



**9.** When we talk functional macromolecules ( e.g., proteins as enzymes, hormones, receptors, antibodies etc. ), towards what are

they evolving ?

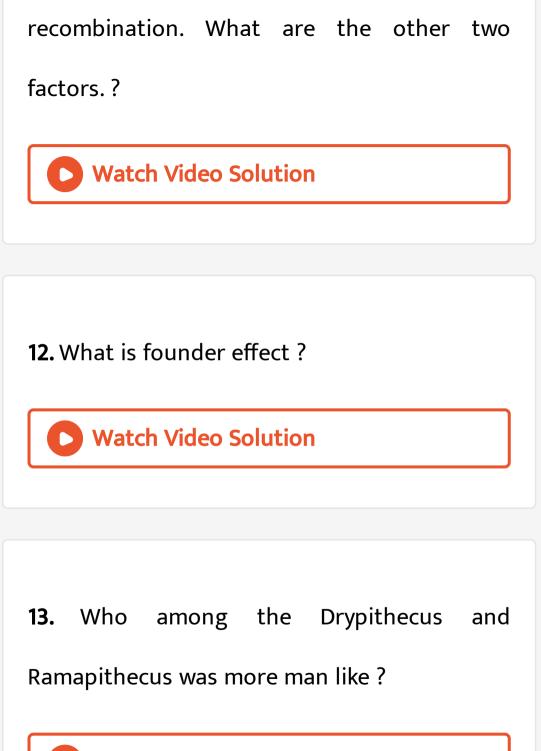
10. In a certain population, the frequency of

three genotypes is as follows

What is the likely frequency of B and b alleles ?

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**11.** Among the five factors that are known to affect Hardy- Weinberg equilibrium, three factors are gene flow, genetic drift and genetic



14. By what Latin name, the first Hominid was

known?



15. Among Ramapithecus, Australopithecines

and Homo habilis who probably did not eat

meat?



**1.** Louis Pasteur's experiments, if you recall, proved that life can arise from only preexisting life. Can we correct this as life evolves from pre-esistent life or otherwise we will never answer the question as to how the first forms of life arose ? Comment.



2. The scientist believe that evolution is gradual. But extinction, part of evolutinary story, are ' sudden ' and 'abrupt' and also group-specific. Comment whether a natural disaster can be the cause for extinction of species.

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3. Why is nascent oxygen supposed to be toxic

to aerobic life forms?



**4.** While creation and presence of variation is directionless, natural selection is directional as it is in the context of adaptation. Comment.

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**5.** The evolutionary story of moths in England during industrialisation reveals, that ' evolution is apparently reversible '. Clarify this statement.



**6.** Comment on the statement that ' evolution and natural selection are end result or consequence of some other processes, but themselves are not processes'.

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7. State and explain any three factors affecting

allele frequency in population.



**8.** Gene flow occurs through generations. Gene flow can occur across language barriers in humans. If we have a technique of measuring specific allele frequencies in different population of the world, can we not predict human migratory patterns in pre-history and history ? Do you agree or disagree ? Provide explanation to your answer.



9. How do you express the meaning of worlds

like race, breed, cultivars or variety ?

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10. When we say ' survival of the fittest ', does

it mean that

(a) those which are fit only survive

(b) those that survive are called fit? Comment.

Enumerate three most characteristic criteria for designating a Mendelian population.

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12. Migration may enhance or blurr the effects

of selection' comment.



Long Answer Type Questions

**1.** Name the law that states that the sum of allelic frequencies in a population remains constant. What are the five factors that influence these values ?

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2. Explain divergent evolution in detail. What is

the driving force behind it ?

**3.** You have studied the story of peppered moths in England. Had the industries been removed, what impact could it have on the moth population ? Discuss.



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4. What are the key concepts in the evolution

theory of Darwin?

**5.** Two organisms occupying a particular geographical are (say desert) show similar adaptive strategies. Taking examples, descrbe the phenomenon.



6. We are told that evolution is a continuing

phenomenon for all living things. Are humans

also evolving ? Justify your answer.

**7.** Had Darwin been aware of Mendel's work would be been able to explain the origin of variations. Discuss.

