確認問題
344

ことわざ・教養・背景知識 CHECK TEST

背景知識チートシート：生物・進化・動物の行動 確認問題集

生物・進化・動物の行動の確認問題24問。目的論の罠と外来種の英文で、進化の考え方と重要語を確かめる。

元のチートシートへ

月　日　名前　／ 24問

表で解いて、裏で答え合わせ。まちがえた所は元のシートへ。

◆ Ⅰ 次の英文を読み、設問に答えよ

[1] We often hear that giraffes developed long necks in order to reach leaves high up in the trees. This way of speaking is convenient, but it can be misleading, because it suggests that animals change their bodies on purpose. [2] According to the theory of natural (1), the process works quite differently. Within any population, individuals vary slightly from one another, and some of these differences are passed on to their offspring. If giraffes with slightly longer necks could reach more food, they would be more likely to survive and leave more young. Over many generations, the trait would become more common. No individual giraffe ever tried to grow a longer neck. [3] It is also a mistake to think that evolution always leads to more complex forms. Some fish living in dark caves, for example, have lost their eyes over time. Evolution, in other words, has no fixed goal.(ア) It simply favors whatever traits suit a particular environment.

1 Choose the best word for (1).

a balance　b selection　c disaster　d resources

2 Why does the author say that the expression in paragraph [1] "can be misleading"?

a Because giraffes' necks are not really long.

b Because the theory of evolution has been disproved.

c Because it suggests that animals change their bodies intentionally.

d Because giraffes do not actually eat leaves.

3 According to paragraph [2], which of the following is necessary for a trait to become more common?

a All individuals in the population must be exactly the same.

b The trait must be passed on to offspring and help individuals survive and reproduce.

c The environment must stay the same forever.

d Individual animals must try hard to change their bodies.

4 下線部(ア)の例として本文に挙げられているものを選べ。

a 暗い洞窟にすむ魚が、時とともに目を失ったこと

b キリンが首を伸ばそうと努力したこと

c 生物が年々、より複雑な形になってきたこと

d 群れのすべての個体がまったく同じであること

5 According to the passage, which of the following is true?

a Giraffes stretched their necks and passed the longer necks on to their young.

b Evolution can make living things simpler as well as more complex.

c Evolution always produces more advanced species.

d Differences between individuals are never inherited.

◆ Ⅱ 次の英文を読み、設問に答えよ

When people bring plants or animals to a new region, they usually do so for a reason. Kudzu, a climbing plant native to East Asia, including Japan, was introduced to the United States in the late nineteenth century. (A) For a time, it was even planted widely to help prevent soil erosion. (B) In the warm climate of the American South, however, kudzu grew so fast that it began to cover trees, fields and even buildings. (C) Lacking the natural enemies that kept it in check in its native range, it spread far beyond the places where it had been planted. (D) The story of kudzu shows that the problem with invasive(イ) species often begins not with the species itself but with human (2).

6 次の英文を入れるのに最も適切な位置を、本文の (A)～(D) から選べ。At first, it was admired as an attractive garden plant.

a (A)　b (B)　c (C)　d (D)

7 Choose the best word for (2).

a actions　b bodies　c diseases　d growth

8 The underlined word (イ) invasive here means ＿＿＿.

a useful to farmers

b spreading in a way that harms the local environment

c too small to be noticed　d native to the region

9 Which of the following is NOT mentioned as a reason why kudzu spread so widely?

a It grew quickly in a warm climate.

b People deliberately released insects that feed on it.

c It had no natural enemies in its new home.

d It had been planted widely by people.

◆ Ⅲ 空所に入る最も適切な語句を選べ

10 Humans did not evolve from chimpanzees; the two species share a common ＿＿＿.

a habitat　b ancestor　c instinct　d enemy

11 Sharks and dolphins look alike even though they are not closely related. This is an example of ＿＿＿ evolution.

a rapid　b convergent　c human　d cultural

12 In a relationship called ＿＿＿, both species benefit, as when bees collect nectar and pollinate flowers.

a competition　b parasitism　c predation　d mutualism

13 When wolves were brought back to the park, the effects spread down through the food chain, changing the behavior of deer and the growth of plants. This is known as a trophic ＿＿＿.

a barrier　b selection　c cascade　d mutation

14 Helping close relatives can spread genes that they share with the helper, an idea known as ＿＿＿ selection.

a artificial　b kin　c random　d sexual

15 Most ＿＿＿ are neutral or harmful, but a few turn out to be useful.

a predators　b mutations　c ancestors　d adaptations

16 The ＿＿＿ of wolves, which eventually gave rise to dogs, is thought to have happened earlier than that of any other animal.

a extinction　b domestication　c pollination　d migration

17 Describing animals as if they had human thoughts and feelings is called ＿＿＿.

a anthropomorphism　b domestication　c altruism　d adaptation

18 Lions are predators, and zebras are their ＿＿＿.

a hosts　b ancestors　c offspring　d prey

◆ Ⅳ 下線部の意味に最も近いものを選べ

19 In the phrase "survival of the fittest," the word <u>fittest</u> is closest in meaning to ＿＿＿.

a best adapted　b largest　c strongest　d fastest

20 Some crows can make tools, which suggests that tool use is not <u>unique to</u> humans.

a taught by　b found only in　c dangerous to　d useful for

21 Once a species becomes <u>extinct</u>, it is gone forever.

a very common　b gone from the earth completely
c settled in a new place　d different in shape

22 Editing the genes of human embryos <u>raises</u> serious ethical questions.

a removes　b answers　c brings up　d avoids

◆ Ⅴ 設問に答えよ

23 次の英文を和訳せよ。Individuals that are better suited to their environment tend to leave more offspring.

24 次の日本文を英訳せよ。人間は自然の一部であり、自然から切り離された存在ではない。

解答・解説 背景知識チートシート：生物・進化・動物の行動

1 **b　selection**
natural selection＝自然選択（自然淘汰）。個体差→遺伝→環境に合った個体が多く子を残す、という次の文以下がその説明。Darwin・Wallace が提唱。

2 **c　Because it suggests that animals change their bodies intentionally.**
because 以下の on purpose（わざと）＝intentionally の言いかえ。in order to を使った「目的論の言い方」への注意。→ シートの『このテーマは「目的論の言い方」に注意』

3 **b　The trait must be passed on to offspring and help individuals survive and reproduce.**
自然選択の条件は①個体差②遺伝③生存・繁殖に有利。「努力して体を変える」は No individual giraffe ever tried と矛盾、「全員同じ」は vary slightly と矛盾する。

4 **a　暗い洞窟にすむ魚が、時とともに目を失ったこと**
for example で挙げた洞窟の魚が「進化＝複雑化ではない」の例。進化はより高等な形を目指すものではなく、その環境に合う特徴が残るだけ。

5 **b　Evolution can make living things simpler as well as more complex.**
目を失った魚が根拠。「首を伸ばして子に伝えた」は獲得形質の遺伝（Lamarck の説）で否定された考え。「決して遺伝しない」は some of these differences are passed on と矛盾。

6 **a　(A)**
持ち込まれた→At first（最初は）庭の植物として好まれた→For a time, … even（一時は～までも）広く植えられた、と時の順と評価の高まりがつながる。(B) 以降は時の順が崩れる。

7 **a　actions**
not with the species itself but with human actions＝問題の始まりは生き物ではなく人間の行い。冒頭の「人が持ち込む」、広く植えたことが根拠。→ シートの『ここだけ3行』

8 **b　spreading in a way that harms the local environment**
invasive species＝侵略的外来種。木や畑を覆うほど広がった kudzu が例。native（在来の）は逆。alien species（外来種一般）とは区別される。

9 **b　People deliberately released insects that feed on it.**
本文にない。虫を放したならむしろ広がりを抑える話になる。暖かい気候・天敵がいない・人が広く植えた、の3つは本文に書かれている。

10 **b　ancestor**
common ancestor＝共通の祖先。人間はチンパンジーから進化したのではなく、共通の祖先から分かれた。今のチンパンジーも同じ期間、別の道で進化してきた。

11 **b　convergent**
convergent evolution＝収斂進化。converge＝1点に集まる。別系統（魚類と哺乳類）が、同じ水中の環境で似た形になった。

12 **d　mutualism**
mutualism＝相利共生（両方が得をする）。mutual＝相互の。parasitism（寄生）は片方が損をする関係。both species benefit が決め手。

13 **c　cascade**
trophic cascade＝栄養カスケード。cascade＝段々の滝。上位の捕食者から下へ連鎖的に影響が波及する。イエローストーンの例は効果の大きさに議論もある。

14 **b　kin**
kin selection＝血縁選択。kin＝親族。自分を犠牲にする利他行動（altruism）を説明する代表的な考え。artificial selection は人による品種改良。

15 **b　mutations**
mutation＝突然変異。偶然起きる遺伝子の変化なので、多くは中立か有害。adaptation（適応）は環境に合った特徴なので「有害」とは言わない。

16 **b　domestication**
domestication＝家畜化。domestic（家の）から。イヌは最初の家畜とされる。is thought to have happened（起きたと考えられている）の控えめな言い方にも注目。

17 **a　anthropomorphism**
anthropomorphism＝擬人化。anthropo（人間）＋morph（形）。動物の知能を論じる長文で「人間の尺度で見すぎる」注意として出る。

18 **d　prey**
predator（捕食者）⇔ prey（被食者・えじき）。prey は単複同形なので -s を付けない。host は寄生される側の「宿主」。

19 **a　best adapted**
fit＝（環境に）合う。適者生存は「最も強い者」ではなく「環境に最も合い、子を多く残した者」が広まる、の意。strongest は日常の fit（体が健康な）に引っぱられた誤り。

20 **b　found only in**
unique to～＝～だけに見られる。「人間だけ」と思われた能力が動物にも見つかった、という『常識をくつがえす』型。

21 **b　gone from the earth completely**
extinct＝絶滅した。名詞は extinction。once は「いったん～すると」の接続詞。distinct（はっきりした）・instinct（本能）と混同しない。

22 **c　brings up**
raise a question＝問題を提起する（持ち出す）＝bring up。「解決する」ではない。受精卵の編集は変化が子孫に受け継がれうる点が懸念。

23 **環境によりよく適した個体ほど、多くの子孫を残す傾向がある。**
採点ポイント：be suited to～（～に適している）／tend to do（～する傾向がある）／offspring（子孫・子）。「より～な個体ほど」と比較のニュアンスを出せると自然。

24 **Humans are part of nature, not separate from it.**
採点ポイント：A, not B の対比／separate from～（～から切り離された）／it＝nature。別解：Humans are a part of nature and are not separate from it.

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