

1. Consider the following statements:

- A. Adaptations are produced by natural selection
- B. Echolocation in bats is an adaptation for catching insects
- C. Vestigial structures present in animals are adaptation
- D. An adaptation is a feature that is not common in a population

The correct statements are:

- a. All of the above
- b. A, B and C
- c. B and C
- d. C and D

2. Which one of the following about adaptation is incorrect?

- a. Heritable
- b. Functional
- c. Adaptive
- d. None of the above

3. All changes that are the result of adaptation can be explained by:

- a. Genetic drift
- b. Natural selection
- c. Mutation
- d. Genetic recombination

4. Adaptation includes characteristics that an increase organism's reproductive success in its natural environment:

- a. Structural
- b. Functional
- c. Behavioural

d. All of these

5. Adaptation results in:

- a. Gain of a new feature
- b. Loss of an ancestral feature
- c. Both (a) and (b)
- d. Neither gain nor loss of a feature

6. Structural adaptations are:

- a. The physical characteristics of an organism
- b. Not caused by natural selection
- c. The ability of an organism to behave
- d. All of these

7. Which one of the following is a behavioural adaptation?

- a. Water fowl migration
- b. Calling behaviour in frogs
- c. Nesting locations in ground squirrels
- d. All of these

8. Match column I with column II and select the correct answer using answer codes:

Column I Column II

(A) Powerful hind legs I. Vultures

(B) Long powerful arms 2. Woodpeckers

(C) Pointed beak 3. Kangaroos

(D) Long broad wings 4. Chimpanzees

Answer codes:

- | | A | B | C | D |
|----|---|---|---|---|
| a. | 4 | 3 | 2 | I |
| b. | 2 | 3 | I | 4 |



c. 3 1 4 2

d. 3 4 2 1

9. Flexible steering tail is found in:

a. Kangaroos

b. Cheetahs

c. Horses

d. Musk oxen

10. Which one of the following about the eagles is incorrect?

a. Sharp claws and sharp hooked beak

b. Camouflage colouration

c. Keen eyesight

d. High flight

11. Which one of the following is an incorrect match?

a. Opossum - Plays dead

b. Skunk - Camouflage colouration

c. Spider - Floats in air

d. Moose - Sprays foul smelling scent

12. Seasonal colour change for camouflage occurs in:

a. Mooses

b. Foxes

c. Rabbits

d. Opossums

13. Which one of the following is an incorrect match?

a. Bird wing - Structural adaptation

b. Migration - Behavioural adaptation

c. Photosynthesis - Biochemical adaptation

d. None of the above

14. Foot is good for running in:

a. Sparrows

b. Pheasants

c. Herons

d. Coots

15. Foul-smelling scent spraying is found in:



- a. Skunks
 - b. Opossums
 - c. Mooses
 - d. Foxes
16. Scopae are found in:
- a. Herons
 - b. Hummingbirds
 - c. Coots
 - d. Honeybees
17. Head is tapering and ends with a snout in:
- a. Shrews
 - b. Snakes
 - c. Moles
 - d. All of these
18. Which one of the following is found in penguins?
- a. Blubber
 - b. Countercurrent heat exchange
 - c. Uropygial glands
 - d. All of these
19. Tail is vestigial in:
- a. Lizards and snakes
 - b. Hedgehogs and moles
 - c. Moles and wombats
 - d. Woodchunks and snakes
20. The free movement of limb segments at joints is lost in a cursorial foot, except at the:
- a. Ball and socket joint of hip
 - b. Ball and socket joint of hip and shoulder
 - c. Ball and socket joint of ankle and wrist joints
 - d. All of these



21. In which one of the following forms of adaptation are ulna and forelimbs reduced as an adaptation to fast running?

- a. Fossorial adaptation
- b. Cursorial adaptation
- c. Arboreal adaptation
- d. Volant adaptation

22. External ears are entirely absent in:

- a. Monotremes
- b. Fossorial moles
- c. Both a and b
- d. Otter, monotremes and fossorial moles

23. The sole of feet bears adhesive pads in:

- a. Japanese macaques
- b. Tree porcupines
- c. Tree shrews
- d. All of these

24. Penguins:

- a. Are amphibious
- b. Feed only at sea
- c. Breed on land
- d. All of these



25. Which one of the following is the root concept that grew into Darwin's theory of natural selection?

- a. Genetic drift
- b. Mutation
- c. Genetic recombination
- d. Adaptation

26. Social adaptation is found in:

- a. Lions
- b. Wolves
- c. Tigers
- d. Elephants

27. Which is one of the following about adaptations is correct?

- a. Evolutionary process
- b. Basic phenomenon of biology
- c. Occurs over many generations
- d. All of these

28. Consider the following statements about Koalas:

- A. Koalas are marsupials
- B. Koalas get most of their water from the succulent *Eucalyptus* leaves
- C. Koalas have thickly padded tails
- D. There is a large gap between the first and second fingers

The correct statements are:

- a. All of these
- b. B, C and D
- c. A, C and D



d. A and B

29. Which of the following favours stride rate

- a. Increase in limb mass
- b. Decrease in limb mass
- c. Increase in length of limbs
- d. Decrease in length of limbs

30. Teeth are prehensile in:

- a. Bears
- b. Seals
- c. Musk deer
- d. None of these

31. Which one of the following about fossorial mammals is correct?

- a. Small and pentadactyl
- b. Relatively defenseless
- c. Plantigrade
- d. All of these

32. Eyes are covered with skin in:

- a. Marsupial moles
- b. Cape golden moles
- c. Mole rats
- d. Hedgehogs

33. Feet are prehensile in:

- a. Primates
- b. Marsupials
- c. Both a and b
- d. Flying squirrel

34. In all modern birds, there are:

- a. Two equally developed metacarpals
- b. Two unequally developed metacarpals
- c. Three equally developed metacarpals
- d. Three unequally developed metacarpals

35. Which one of the following is not applicable to *Rhacophorus*?

- a. Webbed feet
- b. Adhesive pads



- c. Patagium
- d. Volant adaptation

36. The hoof has reached the highest degree of perfection in:

- a. Camels
- b. Horses
- c. Oxen
- d. Rhinoceroses

37. The sidewinder is mostly seen during:

- a. Morning
- b. Evening
- c. Night
- d. Afternoon

38. Nocturnal animals have a well-developed sense of:

- a. Sight
- b. Hearing
- c. Smell
- d. All of these

39. The main feature of nocturnality is the:

- a. Adaptation to avoid predation
- b. Ecological niche
- c. To avoid high temperature
- d. Both (a) and (b)

40. Consider the following statements:

- A. Cats have eyes that can adapt to both night and day levels of illumination
- B. Snakes always keep their eyes open, even when they are asleep
- C. Frogs lack eardrums
- D. The skin of polar bear is black

The correct statements are:

- a. All
- b. A, B and C
- c. A, B and D
- d. C and D

41. Polar bears use as rudders:

- a. Front legs
- b. Hindlegs
- c. Ears
- d. Webbed toes

42. Gliding has particularly evolved among animals living in:

- a. Rainforests
- b. Deserts
- c. Alpine forests
- d. Mangroves

43. A fake penis is found in females of:

- a. Polar bears
- b. Spotted hyenas
- c. Cheetahs
- d. Wild dogs

44. Which one of the following always floats on its back at the time of eating?

- a. Dolphins
- b. Otters
- c. Walruses
- d. None of these

45. Knees can be bent backwards in:

- a. Kiwis
- b. Emus
- c. Flamingoes
- d. Ostriches

46. When there is plenty of prey, the polar bear does not eat the

- a. Skin
- b. Fat
- c. Meat
- d. Internal organs

When there is plenty of seal:

47. By flapping its ears, an elephant can lower its body temperature by:

- a. 1°C
- b. 3°C
- c. 5°C
- d. 7°C

48. The only hoofed animal that allogrooms - mutual grooming from one animal to another as well as grooming itself - is the:

- a. Rhinoceroses
- b. Impalas
- c. Hippopotamuses
- d. Elephants

49. Sweet tooth is found in:

- a. Hippopotamuses
- b. Giraffes
- c. Rhinoceroses
- d. Antelopes

50. Which one of the following is a digging organ?

- a. Snout
- b. Teeth
- c. Forelimb
- d. All of these

51. Aquatic mammals lack:

- a. Pinnae
- b. Valvular nostrils
- c. Foam
- d. Melon

52. In cetaceans, lack of hair is compensated by:

- a. Melon
- b. Baleen
- c. Foam
- d. Blubber

53. Bones are filled with oil in:

- a. Cetacea
- b. Sirenia
- c. Chiroptera
- d. Monotremes

54. Which one of the following about amphibious mammals is correct?

- a. 33
- b. Cylindrical tail
- c. Subcutaneous fat
- d. Small pinnae

55. Gliding is shown by:



- a. *Draco*
- b. *Rhacophorus*
- c. *Acrobates*
- d. All of these

56. Camels begin to sweat only when their body temperature reaches:

- a. 38°C
- b. 40°C
- c. 44°C
- d. 45°C

57. The process of urohydrosis occurs in:

- a. Deserts rodents
- b. Camels
- c. Turkeys
- d. Turkeys and black vultures

58. Which one of the following is known to store water in fatty tissues?

- a. Gila monsters
- b. Black vultures
- c. Kangaroos
- d. Opossums

59. The body of a burrowing animal is:

- a. Worm like
- b. Spindle shaped
- c. Fusiform
- d. All of these

60. The second, third and fourth vertebrae are enclosed in:

- a. Lizards
- b. Moles
- c. Snakes
- d. Opossums

61. Cursorial adaptations are found in:

- a. Cassowaries
- b. Rheas
- c. Emus
- d. All

62. In sirenians:

- a. Lungs are unlobed
- b. Dentition is greatly reduced
- c. Only two teats are present



d. All of these

63. In fossorial animals:

- a. The shoulder girdle is weak
- b. The olecranon process of ulna is very well developed
- c. Forelimbs are weak
- d. The humerus is long

64. Second and third toes are syndactylous in:

- a. *Bradypus*
- b. *Koala*
- c. *Carpomys*
- d. *Chameleon*

65. Brachydont is found in:

- a. Insectivores
- b. Herbivores
- c. Carnivores
- d. Omnivores

66. Match column I with column II and select the correct match using answer codes:

Column I
(A) Aggressive mimicry
(B) Warning mimicry
(C) Protective mimicry
(D) Simulation of death

Column II
1. *Phyllium*
2. Spiders
3. *Didelphis virginiana*
4. *Lementis*

Answer codes:

- | | A | B | C | D |
|----|---|---|---|---|
| a. | 4 | 1 | 3 | 2 |
| b. | 2 | 3 | 4 | 1 |
| c. | 3 | 1 | 4 | 2 |
| d. | 2 | 4 | 1 | 3 |

67. Which one of the following lacks digitigrade foot posture?

- a. Deer
- b. Antelopes
- c. Giraffes
- d. All of these

68. Which one of the following is not a brachiator?

- a. Apes
- b. Monkeys
- c. *Galeopithecus*
- d. All of these

69. Skin is hygroscopic in:

- a. *Moloch*
- b. *Perognathus*
- c. *Dipodomys*



d. *Neotoma*

70. Consider the following statements:

- a. In moles, the snout is highly sensitive
- b. In kangaroos, the tail acts as the third leg
- c. *Amblyopsis* lacks taste buds
- d. In moles, an extra pair of zygapophyses are present in the lumbar vertebrae

71. Which one of the following is lacking in aquatic mammals?

- a. Lacrimal glands
- b. Sweat glands
- c. Sebaceous glands
- d. All of these

