Choose the best answer from the GIven alternatives

1. Which of the following is a defining characteristic of all members of the animal kingdom?

A. Cell walls made of chitin B. Multicellular and heterotrophic C. Ability to photosynthesize D. Prokaryotic cell organization

2.In an animal with bilateral symmetry, if you were to draw a line through the center, what would you find?

A. Many identical parts like a wheel B. No distinct left or right sides C. Left and right sides that are mirror images D. Asymmetrical growth in all directions

3. Organisms that are "poikilothermic" are best described as:

A. Maintaining a constant internal temperature B. Having a body temperature that varies with the environment C. Generating heat through metabolic processes D. Only living in extreme polar regions

4.Which embryonic stage is characterized by the development of the three germ layers (ectoderm, mesoderm, and endoderm)?

A. Cleavage B. Blastula C. Gastrula D. Zygote

5. All vertebrates are classified as chordates because they possess a specific set of features. Which statement is true?

A. All chordates are vertebrates B. Not all chordates are vertebrates C. Only mammals are true chordates D. Chordates lack a nervous system

6. What is the primary skeletal difference between invertebrates and vertebrates?

A. Invertebrates have bones, while vertebrates have cartilage B. Invertebrates lack a backbone or vertebral column C. Vertebrates always have an exoskeleton D. Invertebrates have a closed circulatory system

7. Which of the following groups is classified as an invertebrate?

A. Amphibians B. Arthropoda C. Reptiles D. Aves (Birds)

8. Arthropods are further sub-classified into several groups. Which of these is NOT an arthropod? A. Insects B. Spiders C. Crustaceans D. Mollusca

9. Which vertebrate group is characterized by having a four-chambered heart and being homeothermic? A. Fish B. Amphibians C. Birds D. Reptiles

10. The excretory system of most vertebrates is primarily composed of: A. Malpighian tubules B. Paired kidneys C. Flame cells D. Nephridia

11. How does asexual reproduction differ from sexual reproduction? A. It requires two parents B. It involves the fusion of gametes C. It involves a single individual producing offspring D. It always produces genetically diverse offspring

12. In insects, "complete metamorphosis" is distinguished by the presence of which stage? A. Nymph B. Larva and Pupa C. Adult only D. Egg only

13. What is the defining feature of "incomplete metamorphosis"? A. The young (nymphs) look similar to the adults B. There is a resting pupal stage C. The organism does not hatch from an egg D. It occurs only in aquatic insects

14. Fertilization in frogs is typically: A. Internal, occurring inside the female's body B. External, occurring in a water environment C. Asexual, through budding D. Absent, as they reproduce by fragmentation

15. Bird eggs are uniquely adapted for land because they: A. Lack a shell to allow for gas exchange B. Have an external hard cover and are laid in nests C. Are fertilized after being laid D. Contain no yolk

16. Which of the following is true regarding reproduction in rats? A. They lay eggs with leathery shells B. Development of the embryo occurs inside the female C. They undergo external fertilization D. They undergo metamorphosis

17. Crocodile reproduction involves: A. Internal fertilization and laying eggs B. External fertilization in the sea C. Giving birth to live young without eggs D. Metamorphosis from a tadpole stage

18. What is the primary purpose of incubation in birds?

A. To protect the eggs from predators B. To keep the eggs at a constant temperature for development C. To allow the shell to harden D. To ensure the egg remains moist

19.Which process ensures the continuity of an animal species?

A. Homeostasis B. Respiration C. Reproduction D. Digestion

20.During sexual reproduction, the fusion of male and female gametes forms a:

A. Larva B. Zygote C. Nymph D. Pupa

21. Which insect is primarily known for the commercial production of honey and wax?

A. Silk moth B. Honeybee C. Lac insect D. Blister beetle

22. The use of insect predators like the mantis to control crop-damaging pests is called:

A. Chemical control B. Natural biological control C. Mechanical control D. Genetic engineering

23 . Which beetle is known to feed on the eggs of locusts, helping to regulate their population?

A. Ladybird beetle B. Blister beetle (Epicauta) C. Rove beetle D. Ground beetle

24 . Insects contribute to soil health by:

A. Consuming all organic matter B. Creating channels for air and water (soil aeration) C. Increasing soil compaction D. Preventing the nutrient cycle

25 . Edible insects are considered a sustainable source of:

A. Carbohydrates B. Animal protein C. Vitamin C D. Dietary fiber

26 . Which of these is a "harmful" aspect of certain insects?

A. Pollination of crops B. Production of silk C. Transmission of diseases to humans D. Decomposition of waste

27 . The ladybird beetle (Chilomenes) is beneficial to cotton farmers because it:

A. Produces high-quality dyes B. Feeds on aphids that damage cotton C. Pollinates the cotton flowers D. Aerates the soil around the roots

28 . Which of the following is a product derived from insects used in the textile industry?

A. Wool B. Silk C. Cotton D. Nylon

29. Insects like the Stagmomantis (mantis) are useful because they feed on:

A. Plant roots B. Grasshoppers and caterpillars C. Nectar only D. Useful pollinators

30 . Why are insects considered "sentient creatures" in biological ethics?

A. They are capable of photosynthesis B. They can experience sensations or feelings C. They do not have a nervous system D. They are only used for food

31 . Behavior that is "innate" or "inherent" is:

A. Learned through trial and error B. Present from birth and genetically programmed C. Acquired by watching others D. Only found in mammals

32 . A dog sitting on command after being given treats is an example of:

A. Innate behavior B. Learned or acquired behavior C. Reproductive behavior D. Social hierarchy

33 . Behavioral cycles that occur daily are known as:

A. Migration B. Circadian rhythms (Behavioral cycles) C. Hibernation D. Estivation

34 . Which behavior is specifically related to defending a specific area from others?

A. Cooperation B. Territory C. Courtship D. Imprinting

35 . Communication in animals can involve:

A. Sounds, scents, and visual displays B. Only vocalizations C. Only physical contact D. No interaction with other species

36 . Reproductive behavior often includes "courtship" which serves to:

A. Find food for the winter B. Attract a mate of the same species C. Defend the territory from predators D. Teach young how to hunt

37 .Social behavior in animals like bees or ants involves:

A. Living in isolation B. Working together in organized groups C. Constant fighting between members D. Lack of communication

38 . Which of the following is an example of an innate behavior?

A. A chimpanzee using a stick to get termites B. A spider spinning a web perfectly the first time C. A parrot mimicry of human speech D. A rat navigating a maze for food

39 . Learned behavior is advantageous because it allows an animal to:

A. Pass on genes more quickly B. Adapt to changes in its environment C. Avoid reproduction D. Stop all innate behaviors

40 . Competition between animals occurs when they:

 A. Share resources peacefully B. Require the same limited resources like food or mates C. Live in different habitats D. Belong to different kingdoms

41 . What is the primary goal of homeostasis?

A. To change the internal environment constantly B. To maintain stable internal conditions C. To make the body temperature equal to the environment D. To stop all metabolic processes

42 . In a "negative feedback" mechanism, the response:

A. Increases the original stimulus B. Reverses the direction of the stimulus C. Has no effect on the body D. Is only controlled by the skin

43. Which organ acts as the "control center" for many homeostatic processes in humans?

A. The heart B. The brain C. The lungs D. The stomach

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44. . Thermoregulation is the process of:

A. Controlling water levels B. Maintaining constant internal body temperature C. Regulating blood sugar D. Balancing electrolytes

45 . How does the body respond to a decrease in blood sugar level?

A. The pancreas releases insulin B. The pancreas releases glucagon C. The liver stores more glucose D. The kidneys produce more urine

46. Osmoregulation involves the control of:

A. Body temperature B. Water and electrolytes C. Light sensitivity D. Oxygen levels in the blood

47 . The hormone that helps lower blood glucose levels is:

A. Glucagon B. Insulin C. Adrenaline D. Testosterone

48 . When the body is dehydrated, the kidneys will:

A. Produce a large amount of dilute urine B. Produce a small amount of concentrated urine C. Stop filtering blood entirely D. Increase water loss through the skin

49. . Animals that maintain a constant body temperature regardless of the environment are:

A. Poikilothermic B. Homeothermic C. Ectothermic D. Asymmetrical

50. . Which component of the homeostatic system "senses" the change in the environment?

A. Effector B. Receptor C. Control center D. Muscle

51. . Zoology is specifically the study of:

A. Plants and their medicinal uses B. Animals, including their anatomy, behavior, and health C. Rocks and geological formations D. Human history and culture

52. . In biological research, the principle of "Reduction" aims to:

A. Replace animals with computer models B. Minimize the number of animals used in experiments C. Improve the living conditions of lab animals D. Increase the speed of experiments

53 . "Refinement" in animal research ethics involves:

A. Using cell cultures instead of animals B. Reducing animal suffering through better medical care C. Using as many animals as possible for accuracy D. Eliminating the use of anesthesia

54. The principle of "Replacement" refers to:

A. Replacing old lab equipment B. Substituting animal experiments with alternative techniques like cell cultures C. Changing the species of animal used D. Replacing the researcher

55.: Compare the reproductive strategies of frogs and birds. Why is the bird's egg better suited for a terrestrial (land) environment?

A. Frogs lay eggs on land, but birds lay them in water. B. Bird eggs have a hard shell and internal nutrients, protecting the embryo from drying out. C. Frog fertilization is internal, making it safer. D. Birds undergo metamorphosis while frogs do not.

56. If a researcher uses a computer simulation to study a drug's effect instead of testing it on mice, which ethical principle are they applying?

A. Reduction B. Refinement C. Replacement D. Reproduction

57. In the context of homeostasis, if the "effector" fails to work, what is the likely outcome for the animal?

A. The receptor will take over the effector's job. B. The animal will be unable to return to its stable internal state. C. The stimulus will automatically disappear. D. The brain will stop sending signals.

58. Which of the following best evaluates the importance of insects in an ecosystem?

A. They are only important because they produce honey for humans. B. They are vital for pollination, nutrient cycling, and acting as a food source. C. They are mostly pests and should be eradicated. D. They have no impact on soil health.

59. Why do mammals in polar regions often have smaller protruding structures (like ears) compared to those in the tropics?

A. To help them hear better in the snow. B. To reduce surface area and minimize heat loss in cold climates. C. Because they have less blood flow. D. To help them blend in with the ice.

60. A common type of asexual reproduction that involved by some animals like honey bees in which unfertilized egg produced offspring is known as:

A. Parthenogenesis B. Binary fission C. Budding D. Binary fusion