

JAMB

Biology

Past questions

Paper Type: **Objective (PT. 1-5)**

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JAMB BIOLOGY PAST QUESTIONS (PT.1)

PAPER TYPE: C

1. Which Question Paper Type of Biology is given to you?

- A. Type A
- B. Type B
- C. Type C
- D. Type D

2. The function of the red head in male Agama lizards is to _____

- A. conceal and camouflage the animal from predators
- B. scare other males from the territory
- C. attract female lizards for mating purposes
- D. warn predators of the distastefulness of the animal

3. In which of the following species is the biomass of an individual the smallest?

- A. Agama sp.
- B. Bufo sp.

C. Spirogyra sp.

D. Tilapia sp.

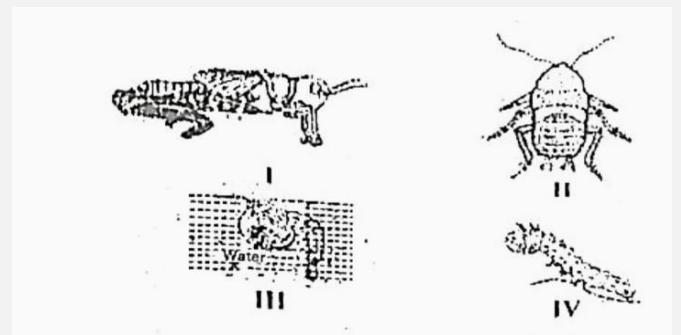
4. Seed plants are divided into ____

- A. tracheophytes and ferns
- B. angiosperms and gymnosperms
- C. monocotyledons and dicotyledons
- D. thallophytes and bryophytes

5. In which of the following groups of vertebrates is parental care mostly exhibited?

- A. Reptilia
- B. Amphibia
- C. Aves
- D. Mammalia

Use the Diagrams below to answer questions 6 to 8



6. Which of the organisms represented are notable agricultural pests?

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

7. An economic importance of the organism represented by IV is that _____

- A. it transmits water borne disease to humans
- B. it is destructive to farm crops
- C. its faeces pollutes drinking water
- D. it helps in the control of mosquito larvae

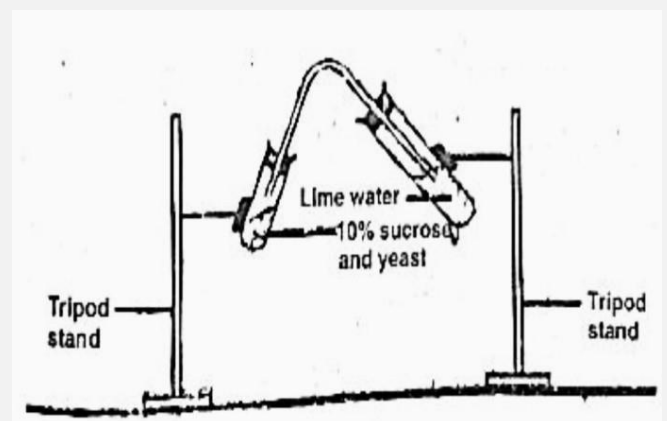
8. The adult form of iii is a vector of _____

- A. sleeping sickness
- B. river blindness
- C. cholera
- D. elephantiasis

9. The adaptive importance of nuptial flight from termite colonies is to _____

- A. disperse the reproductives in order to establish new colonies
- B. provide abundant food for birds and other animals during the early rains
- C. ensure cross-breeding between members of one colony and another
- D. expel the reproductives so as to provide enough food for other members

Use the diagram below to answer question 10 and 11



10. The gas evolved in the process is _____

- A. carbon (IV) oxide

- B. nitrogen
- C. oxygen
- D. carbon (II) oxide

11. The experimental set-up above is used to demonstrate the process of _____

- A. diffusion
- B. photosynthesis
- C. fermentation
- D. plasmolysis

12. Which of the following can cause shrinkage of living cells?

- A. Hypotonic solution
- B. Isotonic solution
- C. Deionized water
- D. Hypertonic solution

13. Which of the following is true of leucocytes?

- A. they are respiratory pigments
- B. they are most numerous and ramify all cells
- C. they are large and nucleated

D. they are involved in blood clotting

14. The conversion of a nutrient into a molecule in the body of a consumer is referred to as _____

- A. digestion
- B. assimilation
- C. absorption
- D. inhibition

15. The ability of living organism to detect and respond to changes in the environment is referred to as _____

- A. locomotion
- B. irritability
- C. growth
- D. taxis

16. In mammals, the exchange of nutrients and metabolic products occurs in the _____

- A. lungs
- B. oesophagus
- C. trachea

D. lymph

17. An example of an endospermous seed is _____

- A. maize grain
- B. cashew nut
- C. cotton seed
- D. been seed

18.

I. Parasitism → Sundew.

II. Autotrophism → Amoeba.

III. Saprophytism → Alga.

IV Heterotrophism → Agama.

Which of the above modes of nutrition is correctly matched with the organism that exhibits it?

- A. **II**
- B. **III**
- C. **II**
- D. **I**

Use the following information to answer the questions 19 and 20.

I. Test tube containing cane sugar and water.

II. Test tube containing cane sugar and diluted acid.

III. Test tube containing cane sugar and its degrading enzyme.

19. In which of the test tubes will glucose be detected after complete hydrolysis?

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

20. The enzyme involved in the hydrolysis is _____

- A. rennin
- B. erepsin
- C. sucrase
- D. maltase

21. The part of the mammalian ear responsible for the maintenance of balance is the _____

- A. cochlea
- B. pinna
- C. perilymph
- D. ossicles

22. The path followed by air as it passes through the lungs in mammals is _____

- A. trachea → bronchi → bronchioles → alveoli
- B. bronchi → trachea → alveoli → bronchioles
- C. trachea → bronchioles → bronchi → alveoli
- D. bronchioles → alveoli → bronchi → trachea

23. The movement response of a cockroach away from a light source can be described as _____

- A. positive phototaxis
- B. negative phototaxis
- C. negative phototropism
- D. positive phototropism

24. The vascular tissues in higher plants are responsible for _____

- A. the movement of food and water
- B. suction pressure
- C. transpiration pull
- D. the transport of gases and water

25. Which of the following organs regulates the levels of water, salts, hydrogen ions and urea in the mammalian blood?

- A. Liver
- B. Kidney
- C. Bladder
- D. Colon

26. The sequence of the one-way gaseous exchange mechanism in a fish is _____

- A. **operculum → gills → mouth**
- B. **gills → operculum → mouth**
- C. **mouth → operculum → gills**
- D. **mouth → gills → operculum**

27. The type of asexual reproduction that is common to

both Paramecium and protists is

- A. budding
- B. sporulation
- C. fragmentation
- D. fission

28. In nature, plants and animals are perpetually engaged in mutualism because _____

- A. they are rivals
- B. all animals rely on food produced by plants
- C. they utilize respiratory wastes of each other
- D. they are neighbours

29. In an experiment to determine the percentage of humus and water in a soil sample, the following results were obtained:

Weight of the evaporating basin alone = 80.5g

Weight of basin and soil = 101.5g

Weight after drying the soil in the oven = 99.0g

Weight of basin and roasted soil = 95.5g

The percentage of humus in the soil sample is _____

- A. 16.7%
- B. 17.6%
- C. 26.7%
- D. 16.2%

30. An example of a filter -feeding animal is _____

- A. shark
- B. butterfly
- C. whale
- D. mosquito

31. Which of the following is a feature of the population pyramid of a developing country?

- A. long lifespan
- B. low birth rate
- C. low death rate
- D. short lifespan

32. The interaction of a community of organisms with its abiotic environment constitutes _____

- A. niche
- B. a food chain
- C. an ecosystem
- D. a microhabitat

33. The vector of the malaria parasite is _____

- A. female Aedes mosquito
- B. female Anopheles mosquito
- C. male Culex mosquito
- D. female Culex mosquito

34. Which of the following instruments is used to measure relative humidity?

- A. Hydrometer
- B. Thermometer
- C. Hygrometer
- D. Anemometer

35. Exo-erythrocytic phase of the life cycle of malaria parasite occurs in the _____

- A. liver of humans
- B. reticuloendothelial cells of humans
- C. Malpighian tubules of mosquito
- D. brain of humans

36. Habitats are generally classified into _____

- A. biotic and abiotic
- B. aquatic and terrestrial
- C. arboreal and marine biomes
- D. microhabitats and macrohabitats

37. Dracunculiasis can be contracted through _____

- A. eating contaminated food
- B. drinking contaminated water
- C. bathing in contaminated water
- D. bites of blackfly

38. Which of the following groups of environmental factors are density dependent?

- A. Food, salinity, accumulation of metabolites and light
- B. Temperature, salinity predation and disease
- C. Food predation, disease and accumulation of metabolites
- D. Temperature food disease and light

39. Millet, sorghum, maize and onions are common crops growth in Nigeria in the _____

- A. tropical rainforests
- B. Sudan savanna
- C. montane forests
- D. Sahel savanna

40. In which of the following biomes is the south western part of Nigeria located?

- A. Temperate forest
- B. Tropical rainforest
- C. Tropical woodland

D. Desert

41. The inheritable characters that are determined by a gene located on the Xchromosome is _____

- A. recessive
- B. sex-linked
- C. homozygous
- D. dominant

42. Lack of space in a population could lead to an increase in _____

- A. water scarcity
- B. birth rate
- C. disease rate
- D. drought

43. If the cross of a red-flowered plant with a white-flowered plant produces a pink-flowered plant, it is an example of _____

- A. codominance
- B. incomplete dominance
- C. mutation
- D. linkage

44. Which of the following theories was NOT considered by Darwin in his evolutionary theory?

- A. Variation
- B. Survival of the fittest
- C. Use and disuse
- D. Competition

45. The crossing of individuals of the same species with different genetic characters is _____

- A. cross breeding
- B. polygenic inheritance
- C. non-disjunction
- D. inbreeding

46. The number of alleles controlling blood groups in humans

- A. 3
- B. 4
- C. 5
- D. 2

47. During blood transfusion, agglutination may occur as a

result of the reaction between _____

- A. contrasting antigens and antibodies
- B. two different antigens
- C. two different antibodies
- D. similar antigens and antibodies

48. The fallacy in Lamarck's evolutionary theory was the assumption that _____

- A. traits are acquired through disuse of body parts
- B. acquired traits are heritable
- C. acquired traits are seldom formed
- D. traits are acquired through the use of body parts

49. The bright coloured eye spots on the wings of moth are an example of _____

- A. warning colouration
- B. disruptive colouration
- C. crypsis
- D. mimicry

50. The wings of a bat and those of a bird are examples of

- A. convergent evolution
- B. continuous variation
- C. coevolution
- D. divergent evolution

CHECK YOUR ANSWERS

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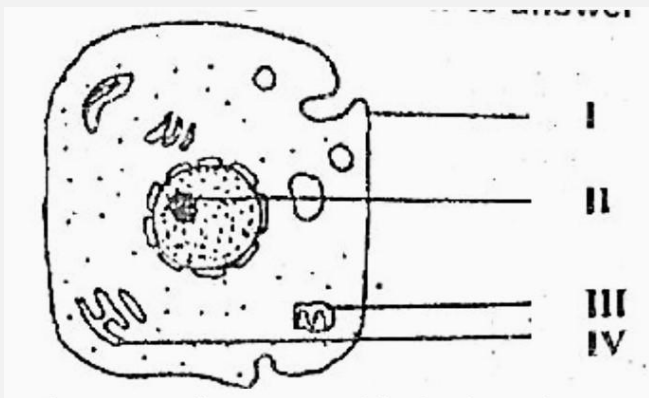
JAMB BIOLOGY PAST QUESTIONS (PT.2)

PAPER TYPE: RED

1. Which Question Paper Type of Biology as indicated above is given to you?

- A. Type Green
- B. Type Purple
- C. Type Red
- D. Type Yellow

Use the diagram below to answer question 2 and 3



2. The organelle responsible for heredity is labelled _____

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

3. The part labelled IV is the _____

- A. mitochondrion
- B. cell wall
- C. endoplasmic reticulum
- D. nucleus

4. Which of the following is most advanced in the evolutionary trend of animals?

- A. Liver fluke
- B. Earthworm
- C. Snail
- D. Cockroach

5. Which of the following is the lowest category of classification?

- A. Class
- B. Species
- C. Family
- D. Genus

6. Plants that show secondary growth are usually found among the _____

- A. thallophytes
- B. pteridophytes
- C. monocotyledons
- D. dicotyledons

7. The fungi are distinct group of eukaryotes mainly because they have _____

- A. spores
- B. no chlorophyll
- C. many fruiting bodies
- D. sexual and sexual reproduction

8. An arthropod that is destructive at early stage of its life cycle is _____

- A. butterfly
- B. mosquito
- C. bee
- D. millipede

9. An animal body that can be cut along its axis in any plane to give two identical parts is said to be _____

- A. radially symmetrical

- B. bilaterally symmetrical
- C. asymmetrical
- D. symmetrical

10. Which of the following possesses mammary gland?

- A. Dogfish
- B. whale
- C. shark
- D. catfish

11. The feature that links birds to reptiles in evolution is the possession of _____

- A. feathers
- B. break
- C. skeleton
- D. scales

12. Countershading is an adaptive feature that enables animals to _____

- A. fight enemies
- B. remain undetected
- C. warn enemies
- D. attract mates

13. Which of the following plant structures lacks a waterproof cuticle?

- A. leaf
- B. stem
- C. root
- D. shoot

14. In the mammalian male reproductive system, the part that serves as a passage for both urine and semen is the _____

- A. urethra
- B. ureter
- C. bladder
- D. seminal vesicle

15. In plants which of the following is required in minute quantities for growth?

- A. Copper
- B. Potassium
- C. Phosphorus
- D. Sodium

16. Which of the following organisms is both parasitic and autotrophic?

- A. Sundew
- B. Loran thus
- C. Rhizopus
- D. Tapeworm

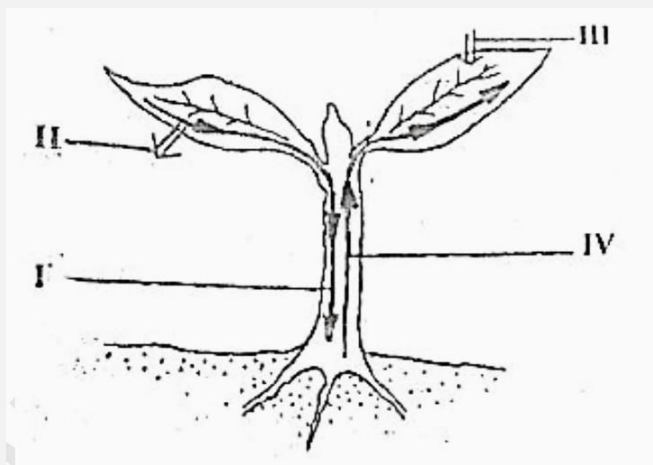
17. A function of the hydrochloric acid produced in the human stomach during digestion is to _____

- A. neutralise the effect of bile
- B. coagulate milk protein and emulsify fats
- C. stop the action of ptyalin
- D. break up food into smaller particles

18. Which of the following is a polysaccharide?

- A. Glucose
- B. Sucrose
- C. Maltose
- D. Cellulose

Use the diagram below to answer this question 19 and 20.



19. Arrows represent directional movement of materials. Transportation in the xylem is represented by _____

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

20. The arrow labelled II represents the _____

- A. release of oxygen
- B. intake of carbon (IV) oxide
- C. movement of photosynthates
- D. movement of nutrients

21. In the kidney of mammals, the site of ultrafiltration is the _____

- A. uriniferous tubule
- B. Bowman's capsule
- C. loop of Henle
- D. renal tubule

22. Which of the following is involved in secondary thickening in plants?

- A. Collenchyma and xylem cells
- B. Vascular cambium
- C. Vascular cambium and cork cambium
- D. Cork cambium and sclerenchyma

23. An example of a fruit that develops from a single carpel is _____

- A. okro
- B. tomato
- C. bean
- D. orange

24. The developing embryo is usually contained in the part labelled _____

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

25. The function of the part labelled III is to _____

- A. produce egg cells
- B. protect sperms during fertilization
- C. secrete hormones during coitus
- D. protect the developing embryo

26. Plant growth can be artificially stimulated by the addition of _____

- A. gibberellin
- B. kinin
- C. abscisic acid
- D. ethylene

27. The autonomic nervous system consists of neurons that control the _____

- A. voluntary muscles
- B. heart beat
- C. tongue
- D. hands

28. Plants of temperate origin can be grown in tropical areas in the vegetation zones of the _____

- A. rain forest
- B. Guinea savanna
- C. Sudan savanna
- D. montane forest

29. The water cycle is maintained mainly by _____

- A. evaporation of water in the environment
- B. evaporation and condensation of water in the environment
- C. condensation of water in the environment
- D. transpiration and respiration in plants

30. Organisms living in an estuarine habitat are adapted to _____

- A. withstand wide fluctuations in temperature
- B. survive only in water with low salinity
- C. withstand wide fluctuations in salinity
- D. feed only on phytoplankton and dead organic matter

31. The presence of stilt roots, pneumatophores, sunken stomata and salt glands are adaptive features of plants found in the _____

- A. tropical rainforest
- B. mangrove swamps
- C. grassland
- D. montane forest

32. Which of the following animals can exist solely on the water they get from food and metabolic reactions?

- A. forest arboreal dweller
- B. Desert dwellers
- C. forest-ground dweller
- D. rainforest dwellers

33. The most likely first colonizers of a bare rock are _____

- A. mosses
- B. ferns
- C. lichen
- D. fungi

34. The carrying capacity of a habitat is reached when the population growth begins to _____

- A. increase slowly
- B. increase exponentially
- C. slow down
- D. remain steady

35. The abiotic factors that control human population include _____

- A. disease and famine
- B. space and rainfall

- C. flooding and earthquake
- D. temperature and disease

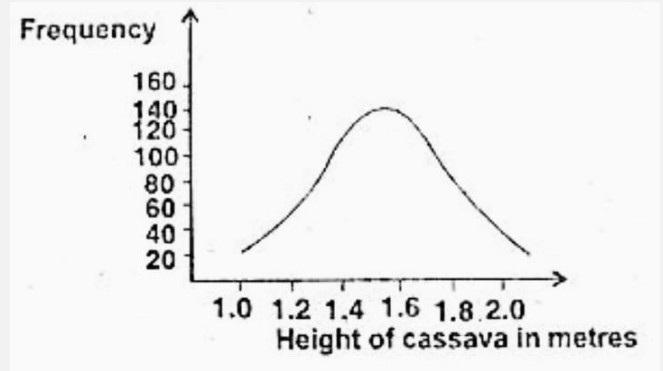
36. An indigenous method of renewing and maintaining soil fertility is by _____

- A. clearing farms by burning
- B. planting one crop type
- C. adding inorganic fertilizers yearly
- D. crop rotation and shifting cultivation

37. The diseases caused by water-borne pathogens include _____

- A. gonorrhoea and poliomyelitis
- B. typhoid and syphilis
- C. tuberculosis and cholera
- D. typhoid and cholera

Use the diagram below to answer question 38 and 39.



38. The graph illustrates _____

- A. the highest frequency for height of 2 metres
- B. a discontinuously varying character
- C. a continuously varying character
- D. total yield in a cassava farm

39. The largest number of cassava plants has an approximate height of _____

- A. 1.4m
- B. 1.6m
- C. 1.8m
- D. 2.0m

40. Which of the following is true in blood transfusion?

A. person of blood group AB can donate blood only to another person of blood group AB

B. persons of blood groups A and B can donate or receive blood from each other

C. A person of blood group AB can receive blood only from persons of blood group A or B

D. A person of blood group O can donate only to a person of blood group O

41. A yellow maize is planted and all the fruits obtained are of yellow seeds. When they are cross-bred, yellow seeds and white seeds are obtained in a ratio 3:1. The yellow seed is said to be _____

A. non-heritable

B. sex-linked

C. a recessive trait

D. a dominant trait

42. When a colour-blind man marries a carrier woman. What is

the probability of their offspring being colour blind?

A. 25%

B. 50%

C. 75%

D. 100%

43. The correct base pairing for DNA is _____

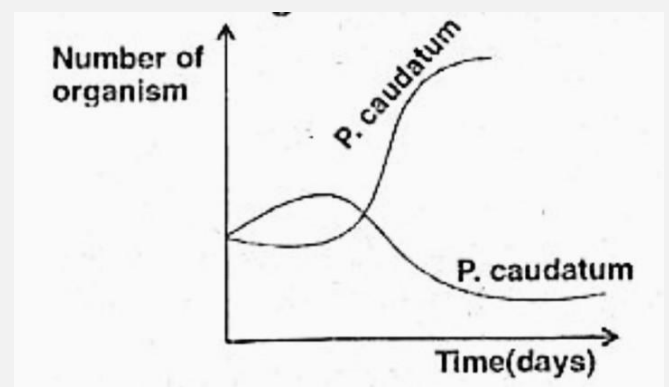
A. adenine → thymine and guanine → cytosine

B. adenine → guanine and thymine → cytosine

C. adenine → cytosine and guanine → thymine

D. adenine → adenine and cytosine → cytosine

Use the diagram above to answer this question 44 and 45



44. The type of interaction shown is referred to as _____

- A. interspecific competition
- B. intraspecific competition
- C. mutualism
- D. cooperation

45. Which of the following statement is true of the interaction?

- A. *P. aurelia* is better adapted for obtaining food than *P. caudatum*
- B. *P. caudatum* is better adapted for obtaining food than *P. aurelia*
- C. both organisms cannot coexist
- D. both organisms cannot reproduce

46. The short thick beak in birds is an adaptation for _____

- A. crushing seeds
- B. sucking nectar
- C. tearing flesh
- D. straining mud

47. The basking of Agama lizards in the sun is to _____

- A. change the colour of their body
- B. raise their body temperature to become active
- C. fight to defend their territories
- D. attract the female for courtship

48. The significance of a very large number of termites involved in nuptial swarming is to _____

- A. provide birds with plenty of food
- B. ensure their perpetuation despite predatory pressure
- C. search for a favourable place to breed
- D. ensure that every individual gets a mate

49. The use and disuse of body parts and the inheritance of acquired traits were used to explain _____

- A. Darwin's theory
- B. Lamarck's theory

C. genetic drift

D. gene flow

50. From his study of Galapagos finches, Darwin derived his theory of evolution from _____

A. comparative anatomy

B. comparative physiology

C. fossil remains

D. comparative embryology

CHECK YOUR **ANSWERS**

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JAMB BIOLOGY PAST QUESTIONS (PT.3)

PAPER TYPE: B

1. Which Question Paper Type of Biology is given to you?

- A. Type D
- B. Type I
- C. Type B
- D. Type U

2. The process in which complex substances are broken down into simpler ones is referred to as _____

- A. anabolism
- B. catabolism
- C. metabolism
- D. tropism

3. The organ which is sensitive to light in Euglena is the _____

- A. gullet
- B. flagellum
- C. chloroplast
- D. eyespot

4. The organelles present in cells that are actively respiring and photosynthesizing are _____

- A. lysosomes and ribosomes
- B. Golgi apparatus and endoplasmic reticulum
- C. nucleus and centrioles
- D. mitochondria and chloroplast

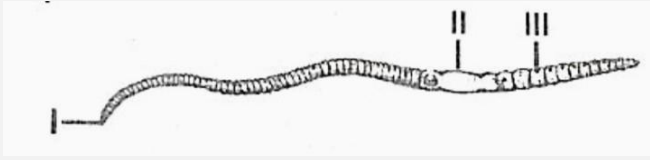
5. Taenia solium can be found in _____

- A. cow
- B. goat
- C. dog
- D. pig

6. The structure labelled II is the _____

- A. spermathecal pore
- B. cocoon
- C. clitellum
- D. chaetae

7.



The organism is found in soils rich in _____

- A. mud
- B. humus
- C. clay
- D. sand

8. Which of the following describes a characteristic of arthropods?

- A. The organism finds it easy to grow freely
- B. the organism has a pair of jointed appendages
- C. the body is not divided into a number of segments
- D. the body is covered by chitin

9. Which of the following distinguishes a butterfly from a moth?

- A. the wings of butterfly rest horizontally but those of moth rest vertically
- B. Both are active during the day
- C. they have similar antennae
- D. the abdomen of moth is fatter than that of butterfly

10. Which of the following types of feathers is used for flight in birds?

- A. Quill
- B. Filo plume
- C. Covert
- D. Down

11. The plants that grow in deserts or very dry areas are referred to as _____

- A. mesophytes
- B. hydrophytes
- C. epiphytes
- D. xerophytes

12. Which of the following is the simplest living organism?

- A. Paramecium
- B. Virus
- C. Amoeba
- D. Chlamydomonas

13. Proboscis is a structure that is mostly found in _____

- A. insects
- B. tapeworms
- C. amphibians
- D. molluscs

14. The structural adaptation of desert plants for water conservation is _____

- A. broad leaves with numerous stomata
- B. spongy mesophyll
- C. spiny leaves
- D. prominent stomata in leaves

15. The long and sharp clawed feet of birds is an adaptation for _____

- A. crushing seeds
- B. scooping mud

- C. tearing flesh
- D. grasping prey

16. During the manufacture of food by plants, which of the following organism use energy from the sun?

- A. anabaena
- B. sulphur bacteria
- C. Nitrosomonas sp.
- D. Nitrobacter sp.

17. Movement of minerals and chemical compounds with a plant occurs during _____

- A. osmosis
- B. translocation
- C. transpiration
- D. diffusion

18. The enzyme that is present in the saliva is _____

- A. rennin
- B. lipase
- C. pepsin
- D. ptyalin

19. Plants that have special devices for trapping and digesting insects are _____

- A. carnivorous
- B. symbiotic
- C. parasitic
- D. saprophytic

20. The process of transforming the chemical energy of cellular fuels into the high energy bonds of ATP in plants is _____

- A. autotropism
- B. photosynthesis
- C. photolysis
- D. respiration

21. Fungi are referred to as heterotrophs because they _____

- A. are filamentous
- B. lack chlorophyll
- C. have mycelium
- D. lack roots

22. An example of a parasitic protozoan is _____

- A. Paramecium
- B. Plasmodium
- C. Euglena
- D. Chlamydomonas

23. Which blood cell are involved in the immune response of vertebrates?

- A. Phagoocytes
- B. lymphocytes
- C. erythrocytes
- D. monocytes

24. The blood circulatory system of vertebrates consists of _____

- A. heart, arteries, capillaries and veins
- B. heart, aorta, capillaries and veins
- C. heart, aorta, arteries and veins
- D. heart, vena cava, arteries, and veins

25. A plant tissue that carries water and mineral salts is the _____

- A. cambium
- B. xylem
- C. cortex
- D. phloem

26. Which of the following helps in the clotting of blood?

- A. Red blood cells
- B. White blood cells
- C. Plasma
- D. Platelets

27. Which of the following forms about 55% of the volume of the blood in man?

- A. leucocytes
- B. platelets
- C. plasma
- D. erythrocytes

28. The part of the mammalian skin involved in excretion is the _____

- A. sweat glands
- B. Malpighian layer
- C. sebaceous gland

D. horny layer

29. Which of the following is a waste product of an insect?

- A. Alkaloids
- B. Uric acid
- C. Sweat
- D. Mucilage

30. The main structure in vertebrates that supports and protects the body is the _____

- A. skeleton
- B. ligament
- C. muscle
- D. joint

31. The chitin in the exoskeleton of many arthropods is strengthened by _____

- A. lids
- B. proteins
- C. calcium compounds
- D. organic salt

32. The transfer of pollen grains from the anther to a stigma is _____

- A. propagation
- B. placentation
- C. pollination
- D. fertilization

33. The male reproductive organ of a flower is the _____

- A. carpel
- B. stamen
- C. petal
- D. sepal

34. The gland that is found just below the hypothalamus is the _____

- A. parathyroid
- B. adrenal
- C. pituitary
- D. thyroid

35. The most important plant hormone is _____

- A. cytokinin
- B. abscisic acid
- C. auxin
- D. gibberellin

36. The sensory cell that responds to dim light is referred to as the _____

- A. cone
- B. lens
- C. rod
- D. iris

37. The absence of anti-diuretic hormone in humans results in _____

- A. decreasing dehydration
- B. drastic dehydration
- C. eliminating dehydration
- D. increasing dehydration

38. Oestrogen is a hormone that is synthesized in the _____

- A. ovaries
- B. testes
- C. anterior pituitary

D. adrenal cortex

39. The eye defect caused by the development of cloudy areas in the lenses is _____

- A. presbyopia
- B. glaucoma
- C. cataract
- D. astigmatism

40. A pollutant that is biodegradable is _____

- A. crude oil
- B. heavy metals
- C. cellophane
- D. sewage

41. A tropical disease caused by Trypanosoma is _____

- A. sleeping sickness
- B. river blindness
- C. yellow fever
- D. malaria

42. The solid part of the ecosystem is referred to as the _____

- A. atmosphere
- B. hydrosphere
- C. biosphere
- D. lithosphere

43. Which of the following is caused by Treponema palladium?

- A. Gonorrhoea
- B. Leprosy
- C. Tuberculosis
- D. Syphilis

44. To which blood group do universal recipients belong?

- A. B
- B. A
- C. O
- D. AB

45. The clumping together of red blood cells is _____

- A. agglutination

- B. fusion
- C. transfusion
- D. compatibility

46. Physiological adaptation to very dry conditions in animals demonstrates _____

- A. rejuvenation
- B. xeromorphism
- C. hibernation
- D. aestivation

47. One of adaptation of Cactus opuntia to conserve water is the reduction of _____

- A. internodes
- B. stem to leaves
- C. leaves to spine
- D. flower size

48. Which of the following structure is adapted for feeding in a bird of prey?

- A. Hooked break and sharp claws
- B. Smooth beak and strong claws
- C. Big beaks and strong feet

D. Pointed beak and strong claws

49. The special pigment for colour change in chameleon is _____

- A. melanin
- B. carotenoid
- C. chromatin
- D. chromatophore

50. The behavioural adaptation in social insects could best be described as _____

- A. symbiosis
- B. saprophytism
- C. parasitism
- D. commensalisms

CHECK YOUR ANSWERS

*Would you like to get or confirm the **correct answer(s) with explanations** to any or all of these questions?*

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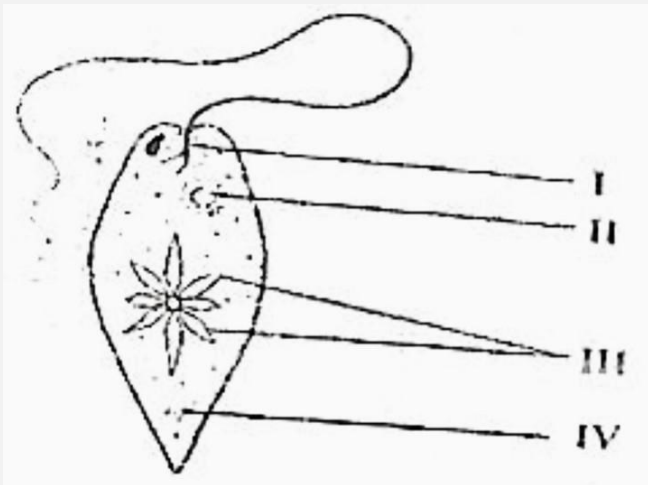
JAMB BIOLOGY PAST QUESTIONS (PT.4)

PAPER TYPE: L

1. Which Question paper Type of Biology is given to you?

- A. Type F
- B. Type E
- C. Type L
- D. Type S

Use the diagram below to answer 2 and 3.



2. The part labelled II is the _____

- A. nucleus
- B. eyespot
- C. basal granule
- D. contractile vacuole

3. The part responsible for photosynthesis is labelled

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

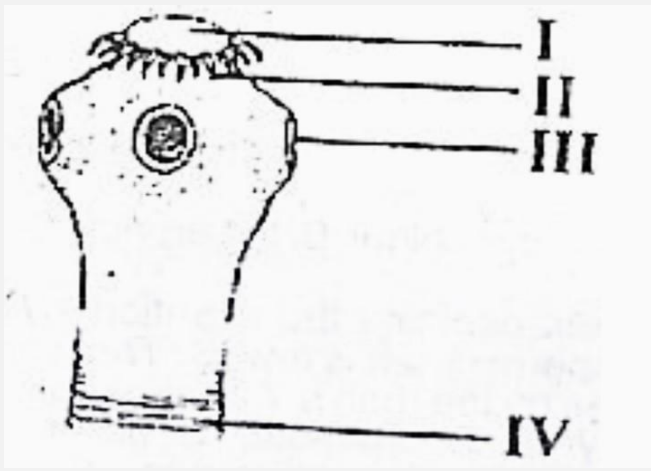
4. The lowest level of organization in living organisms is _____

- A. organ
- B. cell
- C. system
- D. tissue

5. Which of the following is the most complex according to their cellular level of organization?

- A. Heart
- B. Hair
- C. Euglena
- D. Hydra

Use the diagram below to answer questions 6 and 7



6. The organs for attachments to the lining of the host's intestine are labelled _____

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

7. The young proglottid is represented by _____

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

8. Which of the following organisms is multi-cellular?

- A. Chlamydomonas

- B. Spirogyra
- C. Amoeba
- D. Euglena

9. In bryophytes, sex organs are produced in the _____

- A. protonema
- B. sporophyte
- C. gametophyte
- D. rhizoid

10. Seed plants are the most dominant vegetation on land because of _____

- A. their motile gametes
- B. their ability to photosynthesize
- C. efficient seed dispersal
- D. availability of water

11. Which of the following is an arboreal organism?

- A. Elephant
- B. Fish
- C. Antelope
- D. Bird

Use the diagram below to answer questions 12 and 13

12. The part labelled I is the _____

- A. xylem
- B. phloem
- C. root hairs
- D. cortex

13. The diagram is the transverse section of a _____

- A. monocotyledonous stem
- B. dicotyledonous stem
- C. monocotyledonous root
- D. dicotyledonous root

14. $i^{2/1}, c^{0/0}, pm^{3/2}, m^{3/3}$.

The general formula above represents that of _____

- A. an omnivore
- B. a detritus feeder
- C. a carnivore
- D. a herbivore

15. A circulatory system is very essential in mammals but not in smaller organisms like Amoeba because _____

- A. amoeba lives in freshwater
- B. diffusion is sufficient to transport materials in Amoeba
- C. amoeba lacks blood containing haemoglobin
- D. amoeba exhibits anaerobic respiration

16. In vascular plants, the sieve tubes and companion cells are present in the _____

- A. cambium
- B. cortex
- C. xylem
- D. phloem

17. The stomata of leaves are similar in function to the _____

- A. pharynx of humans
- B. scales of fish
- C. spiracle of insects
- D. trachea of toads

18. The use of moist skin for respiration in amphibians is known as _____

- A. cellular respiration
- B. cutaneous respiration
- C. buccal respiration
- D. pulmonary respiration

19. Water in plants is removed as water vapour through the process of _____

- A. diffusion
- B. osmosis
- C. evaporation
- D. transpiration

20. An example of an organ of perennation in plants is _____

- A. rhizome
- B. seed
- C. petal of a flower
- D. calyx of flower

21. Alternation of generation is a feature shown in _____

- A. mosses
- B. fungi
- C. grasses
- D. conifers

22.

- I. Growth is mainly apical.
- II. Growth is specific with definite shape.
- III. Growth is throughout life.

Which of the above correctly describes the growth pattern in plants?

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

23. Coordination and regulation of body activities in mammals are achieved by the _____

- A. nerves and muscle
- B. nerves and hormones
- C. nerves only
- D. hormones only

24. The Cerebellum of the Brain controls _____

- A. reflex action
- B. muscular activity
- C. emotional expressions
- D. the Endocrine system

25. The part of the brain responsible for peristalsis is the _____

- A. Olfactory Lobe
- B. Medulla Oblongata
- C. Hypothalamus
- D. Thalamus

26. Which of the following instruments is used for measuring atmospheric pressure?

- A. Hydrometer
- B. Hygrometer
- C. Thermometer
- D. Barometer

27. The influence of soil on organisms in a habitat is referred to as _____

- A. edaphic
- B. physiographic
- C. biotic
- D. topographic

28. The genetic make-up of an organism is described as _____

- A. allele
- B. chromosome
- C. phenotype
- D. genotype

29. The major limiting factor of productivity in the aquatic habitat is _____

- A. food
- B. temperature
- C. water
- D. sunlight

30. Which of the following group of organisms feeds directly on green plants?

- A. Primary Consumers
- B. Secondary Consumers
- C. Producers

D. Decomposers

31. A characteristic feature of tropical rainforest is that it _____

- A. Contains trees with narrow leaves
- B. Contains large number of plant species
- C. Contains fewer number of plant species
- D. Has total annual rainfall of less than 50cm

32. The study of how and why population size change over time is _____

- A. Population estimation
- B. Population dynamics
- C. Population ecology
- D. Population Cycle

33. A severe and long dry season is a characteristic feature of _____

- A. Sahel Savanna
- B. Mangrove Swamps

C. Sudan Savanna

D. Guinea Savanna

34. Which of the following is a nitrogen fixing blue-green algae of soil?

- A. Rhizobium
- B. Nitrosomonas
- C. Clostridium
- D. Anabaena

35. The soil with highest water-retaining capacity is _____

- A. Clayey Soil
- B. Stoney soil
- C. Sandy soil
- D. Loamy Soil

36. The causative agent of Poliomyelitis is _____

- A. Virus
- B. Fungus
- C. Protozoan
- D. Bacterium

37. One of the ways of controlling noise pollution in urban areas is _____

- A. by siting industries away from residential areas
- B. that fuel should be completely combusted by engines
- C. by planting trees on both sides of the road
- D. by wearing ear devices

38. A constituent of the exhaust fumes from electricity generating sets which causes serious pollution is _____

- A. Carbon (II) Oxide
- B. Water Vapour
- C. Ozone
- D. Carbon (IV) Oxide

39. Which of the following is true of small pox?

- A. It is transmitted by bacteria
- B. It can effectively be controlled with antibiotics

C. It can effectively be controlled by vaccination

D. It is a water-borne infection

40. A pollutant that is mostly associated with acid rain is _____

- A. Nitrogen (IV) Oxide
- B. Ozone
- C. Fluorine

41. When the adults have reach a certain degree of weakness, the process of binary fission is replaced by conjugation in _____

- A. Paramecium
- B. Euglena
- C. Amoeba
- D. Plasmodium

42. Whorls, arches, loops and compounds are types of variation in _____

- A. Colour
- B. Finger prints
- C. Hair Colour
- D. Blood group

43. A couple has 10 children, all female. Which of the following best explains the situation?

- A. The sex determination was by the man's X chromosome
- B. The man's sperm count is low
- C. The woman is not capable of producing male children
- D. The sex determination was by the man's Y chromosome

44. A biological agent with antiviral property is _____

- A. Interferon
- B. enzyme
- C. antibiotic
- D. disinfectant

45. One of the advantages of outbreeding is _____

- A. pest tolerance
- B. disease resistance
- C. fast growth
- D. tall height

46. An individual with blood group AB can receive blood from those in blood group(s) _____

- A. A, B, AB, O
- B. A, AB and O only
- C. AB only
- D. A and B only

47. The stream-lined shape of fishes is an adaptation for _____

- A. Securing mates
- B. easy movement
- C. obtaining food
- D. defence and attack

48. An example of a poikilothermic organism is a _____

- A. Lizard
- B. Cockroach
- C. rabbit
- D. bird

49. All living organisms are constantly involved in a struggle for existence. This was proposed by _____

- A. Morgan
- B. Darwin
- C. Lamarck
- D. Wallace

50. Adaptive radiation is illustrated in _____

- A. modified insect mouthparts
- B. dentition in mammals
- C. wings in birds and bats
- D. appendages in insects

CHECK YOUR **ANSWERS**

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JAMB BIOLOGY PAST QUESTIONS (PT.5)

1. Which of the following has the most primitive respiratory system?

- A. insect
- B. fish
- C. snail
- D. mouse

2. One adaptation shown by hydrophytes in fresh water habitats is the _____

- A. waxy cuticle on shoot surface
- B. poor development of roots and xylem tissues
- C. well-developed roots and supporting system
- D. leaves reduced to spines

3. Which of the following use diffusion as the principal method of gaseous exchange?

- A. grasshopper
- B. rat spines
- C. lizard
- D. earthworm

4. The theory which supports the view that the large muscles developed by an athlete will be passed on to the offspring was proposed by _____

- A. Mendel
- B. Darwin
- C. Lamarck
- D. Pasteur

5. The chromosomes of members of the kingdom Monera are within the _____

- A. nucleoplasm
- B. nucleus
- C. nucleolus
- D. cytoplasm

6. The mangrove swamp in Nigeria is restricted to the _____

- A. Sahel savanna
- B. Guinea savanna
- C. Tropical rainforest
- D. Sudan savanna

7. The pancreas secretes enzymes for the digestion of _____

- A. fats, proteins and carbohydrates
- B. fats, vitamins and cellulose
- C. fats, carbohydrates and vitamins
- D. proteins, cellulose and minerals

8. The causative agent of bird flu is a _____

- A. protozoan
- B. virus
- C. bacterium
- D. fungus

9. A water medium is necessary for fertilization in _____

- A. conifers
- B. angiosperms
- C. ferns
- D. fungi

10. An example of a sex-linked trait is the _____

- A. colour of the skin in humans
- B. ability to roll the tongue
- C. possession of facial hair in adult humans
- D. ability to grow long hair in females

11. In which of the following Nigerian states can montane vegetation be found?

- A. Bauchi
- B. Plateau
- C. Taraba
- D. Enugu

12. Which of the following is true of cloning?

- A. it is welcomed as an ethically and normally sound science
- B. it involves the asexual multiplication of the tissues of the original organism
- C. the clone is similar to but not exactly like the original organism
- D. only one cell of the original organism is needed to imitate the process

13. The process of shedding the exoskeleton of an arthropod is known as _____

- A. ecdysis
- B. in star formation
- C. metamorphosis
- D. osmosis

14. Which of the following is a major cause of constipation in humans?

- A. lack of roughage
- B. vitamin B
- C. vitamin E
- D. lack of salts

15. In mammals, the organ directly on top of the kidney is the _____

- A. adrenal gland
- B. prostate gland
- C. pancreas
- D. thyroid gland

16. An accurate identification of a rapist can be carried out by conducting a _____

- A. RNA analysis
- B. blood group test
- C. behavioural traits test
- D. DNA analysis

17. An example of a fish that aestivates is _____

- A. croaker
- B. lung fish
- C. shark
- D. cat fish

18. The opening and closing of the stoma are regulated by _____

- A. respiration
- B. osmosis
- C. diffusion
- D. transpiration

19. Which of the following is common to the mosquito, housefly and blackfly?

- A. they are parasites of man
- B. their immature stages are aquatic
- C. they undergo complete metamorphosis
- D. their adults have two pairs of wings

20. The organs that will be most useful to giant African rats in finding their way in underground habitats are the _____

- A. nostrils
- B. eyes
- C. vibrissae
- D. tails

21. A crucible of 5gm weighed 10gm after filling with fresh soil. It is then heated in an oven at 1000C for 1 hour. After cooling in a desiccator, the weight was 8gm. The percentage of water in the soil is _____

- A. 0.8
- B. 0.2
- C. 0.4

D. 0.6

22. The waste product of plants used in the conversion of hide to leather is _____

- A. alkaloid
- B. resin
- C. tannin
- D. gum

23. The correct sequence of the movement of urea during formation is _____

- A. glomerulus - Bowman's capsule - convoluted tubule - Henle's loop - collecting tubule
- B. convoluted tubule - glomerulus - Henle's loop - Bowman's capsule - collecting tubule
- C. glomerulus - Bowman's capsule - convoluted tubule - Henle's loop - collecting tubule
- D. convoluted tubule - Bowman's capsule - Henle's loop - glomerulus - collecting tubule

24. In lizards, the lowering of the gular fold is used to _____

- A. defend their territory
- B. attract mates
- C. frighten enemies
- D. catch insects

25. The photosynthetic pigments include _____

- A. chloroplast and cytochromes
- B. melanin and haemoglobin
- C. chlorophyll and carotenoids
- D. carotenoids and haemoglobin

26. The highest level of ecological organization is the _____

- A. ecosystem
- B. niche
- C. biosphere
- D. population

27. A biotic factor which affects the distribution and abundance of organism in a terrestrial habitat is _____

- A. pH
- B. competition
- C. temperature
- D. light

28. The eye defect that rises because the cornea is not curved smoothly is _____

- A. astigmatism
- B. short-sightedness
- C. long-sightedness
- D. presbyopia

29. Which of the following is an example of parasitism?

- A. a squirrel living in an abandoned nest of a bird
- B. mistletoe growing on an orange tree
- C. fungi growing on a dead tree branch
- D. cattle egrets taking tasks from the body of cattle

30. The increasing order of the particle size in the following soil types is _____

- A. cattle sand – clay-gravel
- B. clay - silt sand – gravel
- C. silt - clay - sand - gravel
- D. clay - sand - silt – gravel

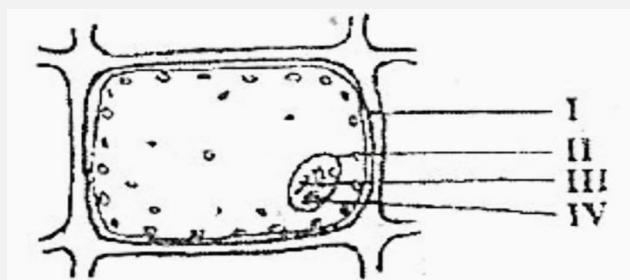
31. Which of following factors can bring about competition population?

- A. emigration
- B. drought
- C. mortality
- D. dispersion

32. Stunted growth and poor root development are a result of a deficiency in _____

- A. phosphorus
- B. calcium
- C. sulphur
- D. iron

Use the diagram below to answer question 33 and 34.



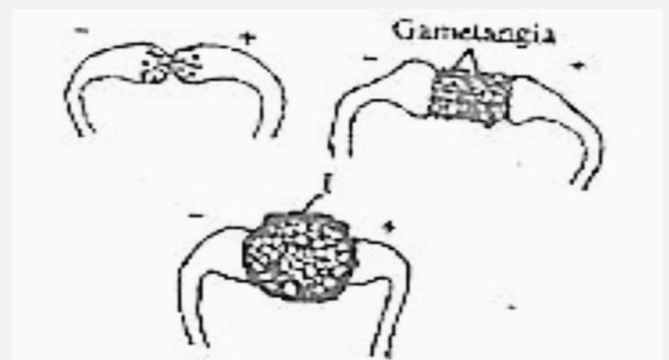
33. The cell organelle solely responsible for respiration is the _____

- A. nucleus
- B. nucleolus
- C. endoplasmic reticulum
- D. mitochondrion

34. The organelle responsible for heredity is _____

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

Use the diagram below to answer questions 35 and 36.



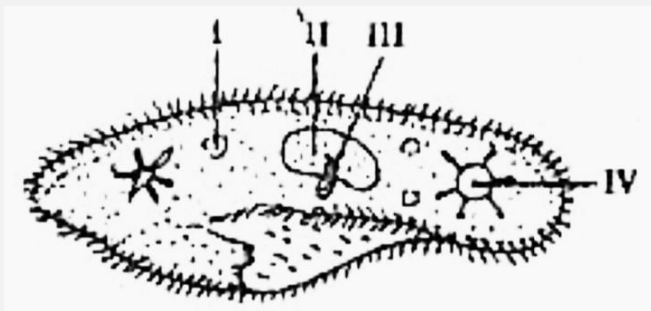
35. The process illustrated is _____

- A. gametogenesis
- B. sexual reproduction in Rhizopus
- C. sexual reproduction in Spirogyra
- D. sporulation

36. The structure labelled I is the _____

- A. zygospore
- B. conidiophore
- C. sporangium
- D. hypha

Use the diagram below to answer questions 37 and 38.



37. The organelle responsible for sexual reproduction is _____

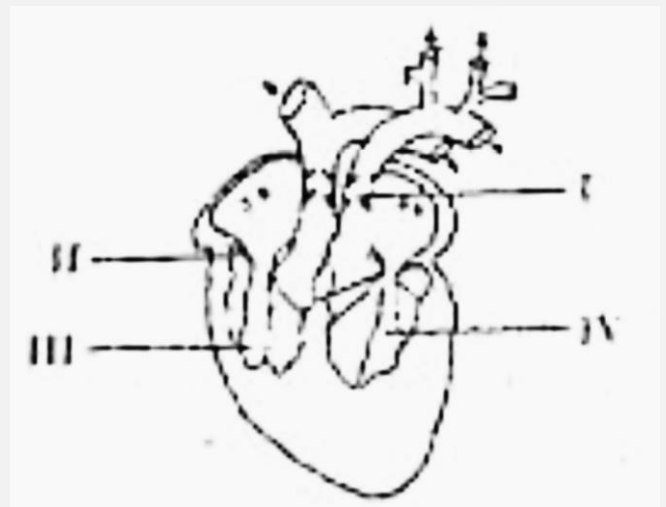
- A. IV
- B. I

- C. II
- D. III

38. The part labelled IV is responsible for _____

- A. respiration
- B. ingestion
- C. locomotion
- D. osmoregulation

Use the diagram below to answer questions 39 and 40.



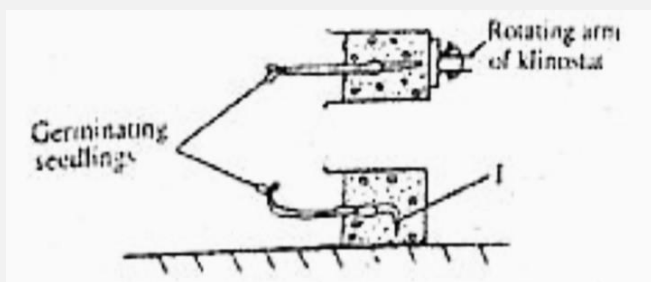
39. The part labelled I is the _____

- A. pulmonary artery
- B. bicuspid valve
- C. aorta
- D. vena carva

40. Oxygenated blood is pumped to the entire body from the part labelled _____

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

Use the diagram below to answer questions 41 and 42.



41. The experiment demonstrates _____

- A. hydrotropism
- B. phototropism
- C. thigmotropism
- D. hydrotropism

42. The part marked I will contain a high concentration of _____

- A. ethylene

- B. abscisic acid
- C. auxin
- D. ascorbic acid

Use the diagram below to answer questions 43 and 44



43. The breeding posture illustrated in the diagram is known as _____

- A. reproductive swimming
- B. amplexus
- C. mating
- D. courtship

44. The diagram shows that the organisms are _____

- A. viviparous
- B. hermaphrodite

C. ovoviviparous

D. oviparous

45. Insulin is produced by the endocrine organ labelled _____

A. I

B. IV

C. III

D. II

46. Which of the following will be true of dog II which lost its tail in an accident if it mates with dog III?

A. all its offspring will be born without tails

B. 3/4 of its offspring will be born without tails

C. none of its offspring will be born without a tail

D. 1/4 of its offspring will be born without tails

47. If the dogs are offspring of a monohybrid cross and the gene G for grey head is dominant over as allele g, the individual whose

genotype is likely to be gg is _____

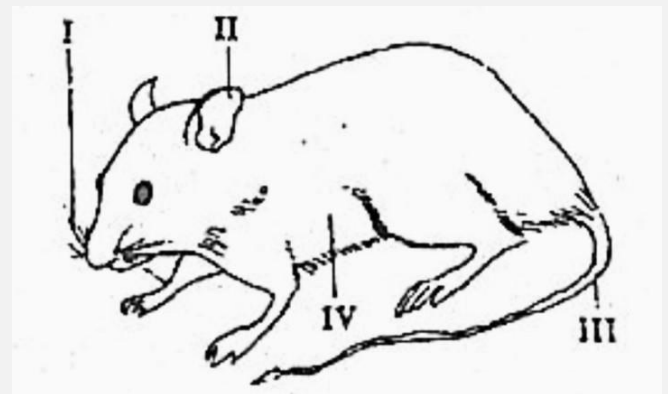
A. I

B. IV

C. III

D. II

Use the diagram below to answer questions 48 and 49.



48. The type of protective adaptation exhibited by the animal is _____

A. flash coloration

B. countershading colouration

C. warning colouration

D. disruptive colouration

49. The structure labelled I is _____

- A. tactile
- B. radiosensitive
- C. photosensitive
- D. chemoreceptive

~~DISCLAIMER~~

These are **not** JAMB expo questions for this year, but past questions of previous years.

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