Joint Admission and Matriculation Board

JAMB

BIOLOGY

Past Questions

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2010 JAMB BIOLOGY QUESTIONS

PAPER TYPE: C

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

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

2. Which of the following characterizes a mature plant cell?

A. the cytoplasm fills up the entire cell space
B. the nucleus is pushed to the centre of the cell
C. the cell wall is made up of cellulose
D. the nucleus is small and irregular in shape

3. Which of the following is NOT a function of the nucleus of a cell?

A. it controls the life processes of the cell
B. it translates genetic information for the manufacture of proteins
C. it stores and carries hereditary information
D. it is reservoir of energy for the cell

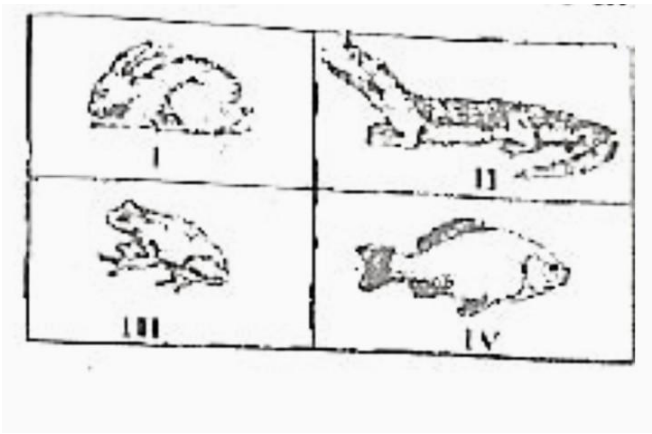
4. The dominant phase in the life cycle of a fern is the?

A. gametophyte
B. prothallus
C. sporophyte
D. antheridium

5. Parental care is exhibited by

A. toads
B. snails
C. earthworms
D. birds

Use the diagram above to answer this question 6 and 7



6. With respect to their decreasing dependence on aquatic conditions for reproduction, which of the following is the correct arrangement of the animals represented?

A. l,IV,II and lll
B. IV, lll, ll and l
C. l, ll, IV and lll
D. lll, ll, IV and l

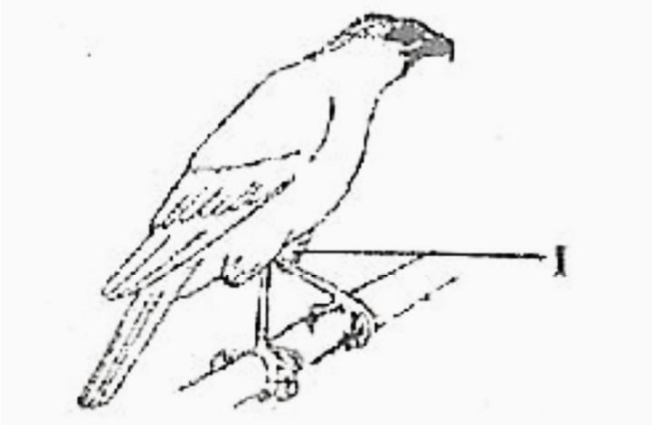
7. Which of the animals represents the oldest creatures in terms of evolutionary history?

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

8. Which of the following groups of cells is devoid of true nuclei

A. algae
B. monera
C. fungi
D. viruses

Use the diagram below to answer this question 9 and 10.



9. The main function of the feathers covering the part labelled I is to

A. prevent ectoparasites from attacking the animal
B. generate heat to keep the animal warm
C. provide some power for flight
D. serve as insulator to maintain body heat

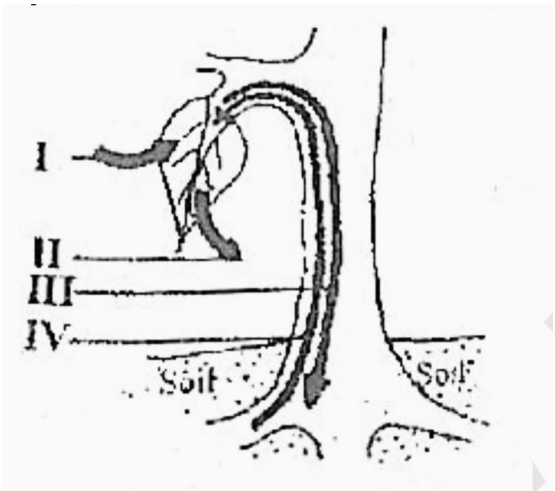
10. Based on the shape and structure of the beak and feet, the bird represented is likely to feed mainly on

A. flesh
B. fruits
C. seeds
D. nectar

11. Which of the following is true of the transverse section of a dicot system?

A. the epidermis is completely encircled by the cortex
B. the xylem is more interiorly located than the phloem
C. the cambium lies between the cortex and the vascular bundles
D. the vascular bundles are randomly scattered within the cortex

Use the diagram below to answer this question 12 and 13



12. The movement of material in the xylem and phloem tissues of the plant are represented by the arrows labelled

A. lll and IV respectively
B. ll and l respectively
C. l and ll respectively
D. l and lll respectively

13. During photosynthesis, the arrow labelled ll represents the

A. escape of mineral salts
B. absorption of energy from the sun
C. release of carbon (IV) oxide
D. release of oxygen as a by-product

14. Which of the following is lacking in the diet of a person with kwashiorkor?

A. vitamins
B. proteins
C. carbohydrates

15. The mode of nutrition of sun dew and bladder wort can be described as

A. autotrophic
B. saprophytic
C. holozoic
D. chemosynthetic

16. When the mixture of a food substance and Benedict's solution was warmed, the solution changed from blue to black-red. This indicates the presence of

A. reducing sugar
B. fatty acid
C. sucrose
D. amino acid

17. The primary structure responsible for pumping blood for circulation through the mammalian circulatory systems is the

A. veins
B. right auricle
C. arteries
D. left ventricle

18. Circulation of blood to all parts of the body except the lungs is through

A. the pulmonary artery
B. systemic circulation
C. the lymphatic system
D. pulmonary circulation

19. Yeast respires anaerobically to convert simple sugar to carbon (IV) oxide and

A. alcohol
B. acid
C. oxygen
D. water

20. The sheet of muscle that separates the thoracic and the abdominal cavities is the

A. diaphragm
B. intercostal muscle
C. pleural membrane
D. pericardium

21. The oily substance that lubricates the mammalian hair to keep it flexible and water repellent is secreted by the

A. sweet glands
B. sebaceous glands
C. fatty cells
D. granular layer

22. The outer layer of the kidney where the Bowman's capsules are found is the

A. cortex
B. pelvis
C. medulla
D. pyramid

23. Which of the following stimuli is likely to elicit a nastic response in an organism?

A. Touch
B. Light intensity
C. Chemical substances
D. Gravity

24. In the male reproductive system of a mammal, sperm is stored in the

A. van deferens
B. urethra
C. epididymis
D. seminiferous tubules

25. Chemosynthetic organisms are capable of manufacturing their food from simple inorganic substances through the process of

A. oxidation
B. denitrification
C. reduction
D. phosphorylation

26. The part of the human gut that has an acidic content is the

A. stomach
B. duodenum
C. ileum
D. colon

27. **I. Stomata → Spirogyro**
II. Alveoli → Earthworm

III. Malpighian tubule → Mammal

IV. Contractile vacuole → Protozoa.

Which of the above structures is correctly matched with the organisms in which it is found?

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

28. A food chain always begins with a

A. consumer
B. decomposer
C. producer
D. primary consumer

29. Mycorrhizae promote plant growth by

A. absorbing inorganic ions from the soil
B. protecting it from infection
C. helping it to utilize atmospheric nitrogen
D. serving as a growth regulator

30. The barrier between maternal and foetal blood is the

A. placenta
B. liver
C. umbilical chord
D. uterine wall

31. The blood component that has the greatest affinity for oxygen is the

A. lymphocytes
B. leucocytes
C. erythrocytes
D. thrombocytes

32. Which of the following organisms is mainly found in the marine habitat?

A. Achatina
B. Tilapia
C. Dog fish
D. Tortoise

33. The two halves of the pelvic girdle are joined together at the

A. public symphysis
B. ilium
C. pubis
D. obturator foramen

34. **I**. Adoption of appropriate nocturnal habits
II. Burrowing
III. Adjusting their internal body temperature.
IV. Possession of many sweat pores.

Which of the above are ways in which desert animals adapt to extreme heat of the environment?

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

35. Low annual rainfall, sparse vegetation, high diurnal temperatures and cold nights are characteristic features of the

A. tropical rainforest
B. desert
C. montane forest
D. guinea savanna

36. The activity of an organism which affects the survival of another organism in the same habitat constitutes

A. an edaphic factor
B. an abiotic factor
C. a biotic factor
D. a physiographic factor

37. The average number of individuals of species per unit area of the habitat is the

A. population density
B. population frequency
C. population size
D. population distribution

38. The vector for yellow fever is

A. Aedes mosquito
B. Anopheles mosquito
C. tsetse fly

D. blackfly

39. The loss of soil through erosion can be reduced by

A. watering
B. crop rotation
C. manuring
D. irrigation

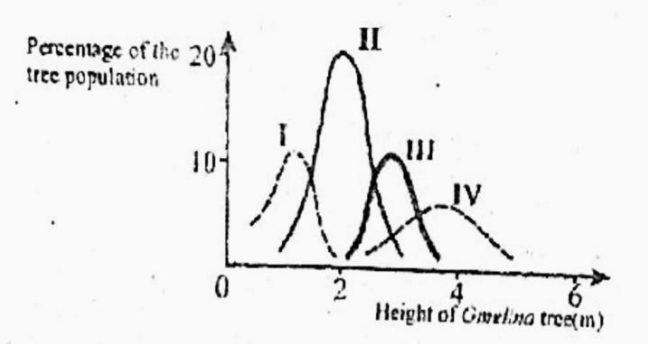
40. The protozoan plasmodium falciparum is transmitted by

A. female Anopheles mosquitoes
B. female Aedes mosquitoes
C. female Culex mosquitoes
D. Female blackfly

41. A dilute solution of phenylthiocarbamide tastes bitter to some people and is tasteless to others. This is an example of

A. taste bud variation
B. discontinuous variation
C. morphological variation
D. continuous variation

Use the diagram below to answer questions 42 and 43



42. In which plantation are all the trees between the height of 2-4m?

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

43. Which of the following is a true feature of plantation ll?

A. it has the highest number of trees of about 2m high.
B. it has highest number of trees
C. it has the highest number of tall trees
D. the height of all its trees range between 2m and 6m

44. Thyroxine and adrenalin are examples of hormones which control

A. blood grouping
B. tongue rolling
C. behavioural patterns
D. colour variation

45. A pair of genes that control a trait is referred to as

A. an allele
B. recessive
C. dominant
D. a hybrid

46. The chromosome number of a cell before and after the process of meiosis is conventionally represented as

A. 2n → 2n
B. n → n
C. n → 2n
D. 2n → n

47. If both parents are heterozygous for a trait, the probability that an offspring will be recessive for that trait is

A. 3/4
B. 1/2
C. 1/4
D. 1

48. At what stage in the life history of a mammal is the sex of an individual set?

A. at adolescence
B. at puberty
C. at birth
D. at conception

49. The main distinguishing features between the soldier termite and other members of the caste are the

A. presence of wings, possession of a small head and large thorax
B. presence of wings, possession of a large thorax and a small head

C. absence of wings, possession of strong mandibles and a large head

D. absence of wings, possession of big head and the absence of mandible

50. The flippers of a whale and the fins of a fish are examples of

A. divergent evolution

B. coevolution

C. continuous variation

D. convergent evolution

ANSWER KEYS

1. C **2.** C **3.** D **4.** C **5.** D **6.** B **7.** D **8.** D **9.** D **10.** A **11.** B **12.** A **13.** D **14.** B **15.** C **16.** A **17.** C **18.** B **19.** A **20.** A **21.** B **22.** A **23.** C **24.** C **25.** D

26. A **27.** D **28.** C **29.** A **30.** A **31.** C **32.** C **33.** A **34.** C **35.** D **36.** A **37.** C **38.** B **39.** A **40.** A **41.** B **42.** A **43.** A **44.** C **45.** A **46.** D **47.** C **48.** B **49.** C **50.** A

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2011 JAMB BIOLOGY QUESTIONS

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. warm 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.

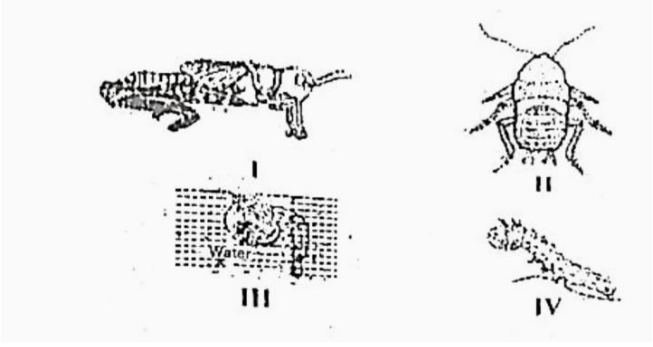
4. Seed plants are divided into

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

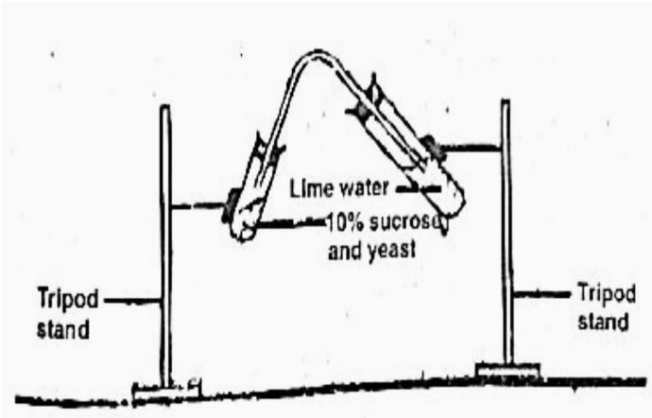
8. The adult form of iii is a vector of

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 gain
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 phototaxism
B. negative phototaxism
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 contacted 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 densitydependent?

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 pinkflowered 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

ANSWER KEYS

1. C **2.** C **3.** D **4.** C **5.** D **6.** A **7.** B
8. D **9.** A **10.** A **11.** C **12.** D **13.** B
14. A **15.** B **16.** D **17.** A **18.** C
19. B **20.** C **21.** A **22.** A **23.** C
24. A **25.** B

26. D **27.** D **28.** B **29.** A **30.** C
31. C **32.** C **33.** B **34.** C **35.** A
36. B **37.** B **38.** C **39.** B **40.** B
41. C **42.** B **43.** A **44.** A **45.** D
46. A **47.** A **48.** A **49.** D **50.** D

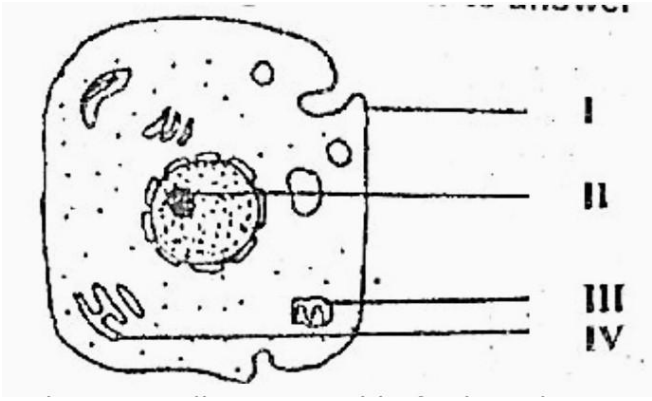
2012 JAMB BIOLOGY QUESTIONS

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. I

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

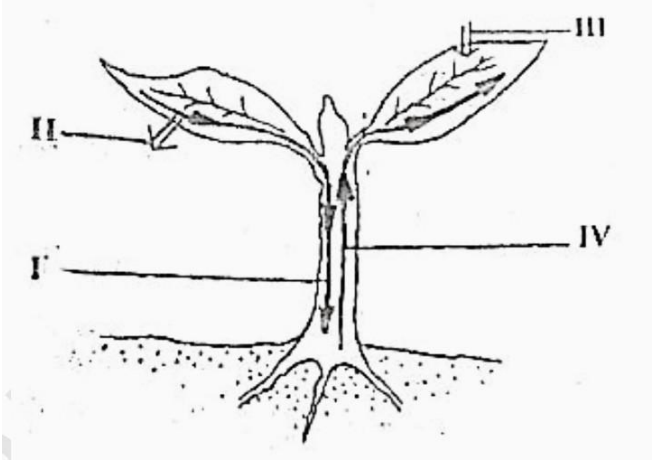
17. A function of the hydrochloric acid produced in the human stomach during digestion is to

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 materials. Transportation in the xylem is represented by

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

20. The arrow labelled ll 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 lll 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

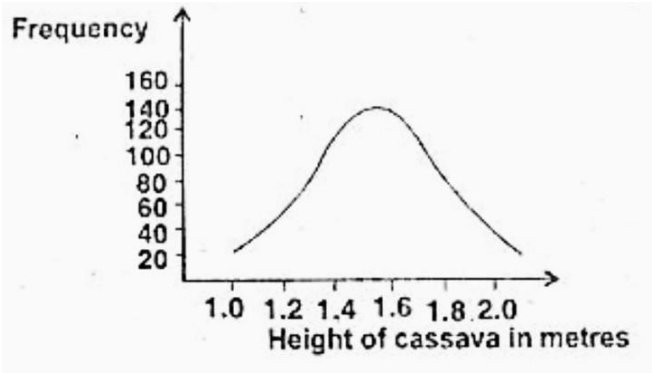
A. clearing farms by burning
B. planting one crop type
C. adding inorganic fertilizers yearly

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

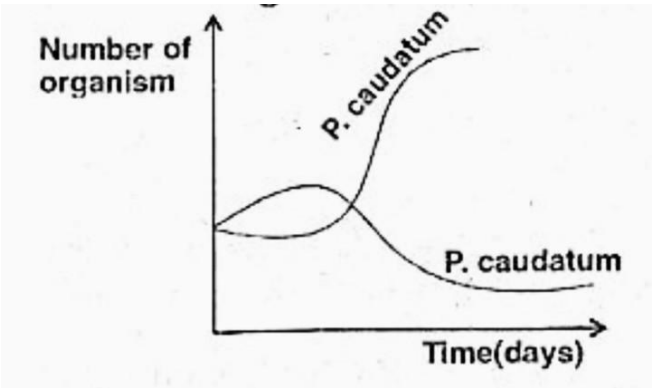
42. When a colour-blind man marries a carrier woman. What is the probability of their offspring being colour blind?

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 break in birds is an adaptation for

A. crushing seeds
B. sucking nectar
C. tearing flash
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. Lamarek'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

ANSWER KEYS

1. C **2.** B **3.** C **4.** D **5.** B **6.** B **7.** B **8.** A **9.** A **10.** B **11.** D **12.** B **13.** C

14. A **15.** A **16.** A **17.** C **18.** D
19. D **20.** A **21.** B **22.** C **23.** C
24. C **25.** A

26. A **27.** B **28.** B **29.** B **30.** C
31. B **32.** B **33.** D **34.** C **35.** C
36. D **37.** D **38.** B **39.** B **40.** A
41. D **42.** B **43.** A **44.** A **45.** C
46. A **47.** D **48.** B **49.** B **50.** B

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2013 JAMB BIOLOGY QUESTIONS

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 hetotrophs 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. Phagoecytes
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 sigma 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 cause 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

ANSWER KEYS

1. C **2.** B **3.** D **4.** D **5.** D **6.** C **7.** B **8.** D **9.** A **10.** A **11.** D **12.** C **13.** A **14.** C **15.** D **16.** A **17.** B **18.** D **19.** A **20.** D **21.** B **22.** B **23.** A **24.** A **25.** B

26. D **27.** C **28.** A **29.** B **30.** A **31.** C **32.** C **33.** B **34.** C **35.** C **36.** C **37.** A **38.** A **39.** C **40.** D **41.** A **42.** D **43.** D **44.** D **45.** A **46.** C **47.** C **48.** A **49.** A **50.** A

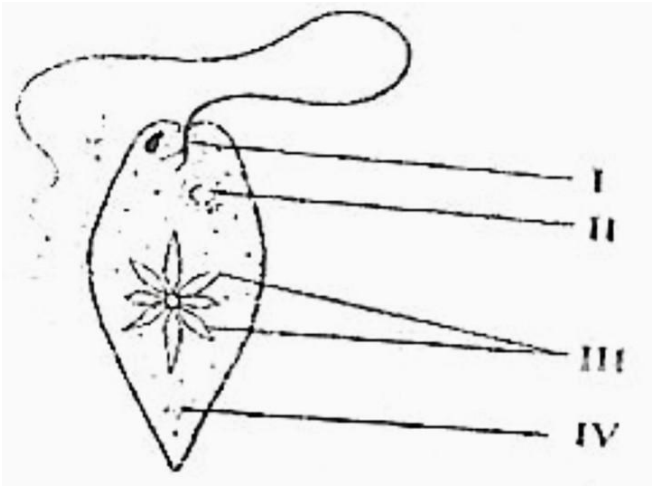
2014 JAMB BIOLOGY QUESTIONS

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

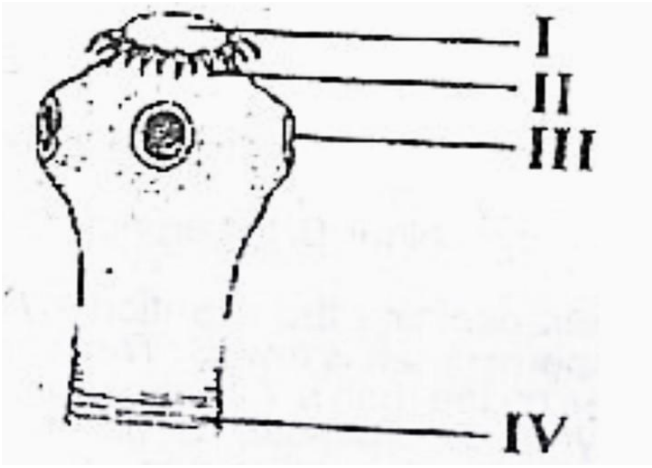
4. The lowest level of organization in living organisms is

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. pests 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

ANSWER KEYS

1. C **2.** D **3.** A **4.** B **5.** B **6.** A **7.** B **8.** B **9.** C **10.** C **11.** D **12.** C **13.** D **14.** D **15.** B **16.** A **17.** C **18.** B **19.** D **20.** B **21.** A **22.** D **23.** B **24.** B **25.** B

26. D **27.** A **28.** C **29.** A **30.** A **31.** B **32.** B **33.** A **34.** A **35.** A **36.** A **37.** A **38.** A **39.** C **40.** A **41.** A **42.** B **43.** A **44.** B **45.** B **46.** A **47.** B **48.** A **49.** B **50.** C

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2015 JAMB BIOLOGY QUESTIONS

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. Lamark
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. pancrease
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. gun

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 lowing 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

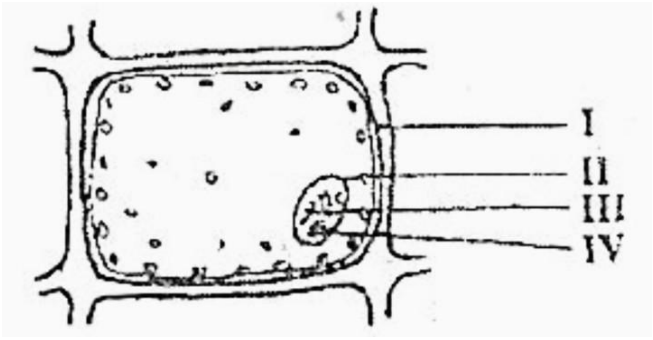
31. Which of following factors can bring about competition population?

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.



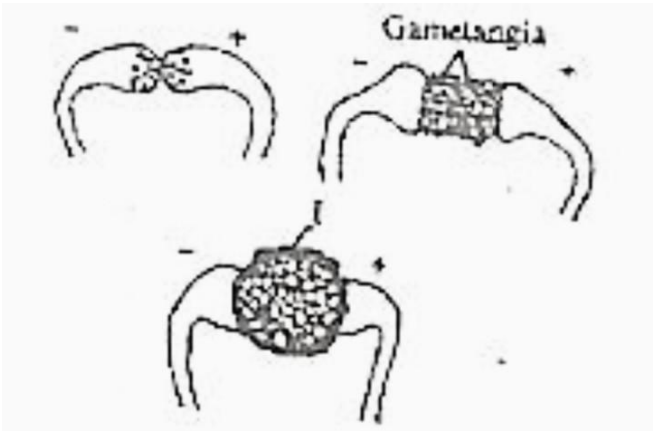
33. The cell organelle solely responsible for respiration is the

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.



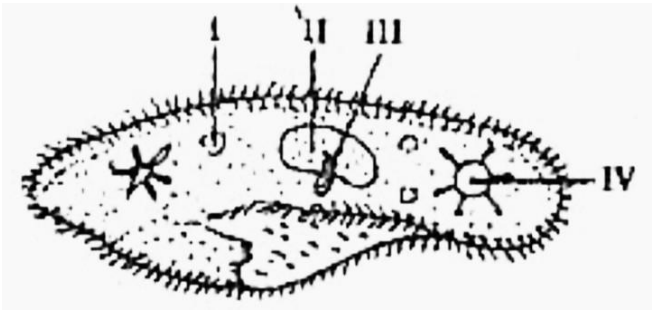
35. The process illustrated is

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.



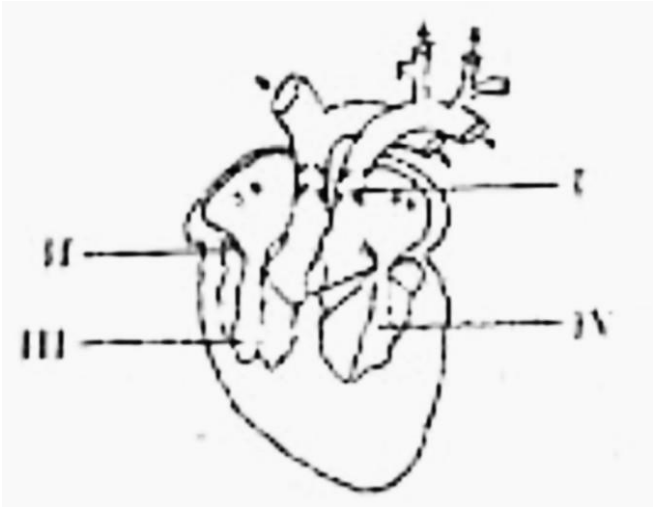
37. The organelle responsible for sexual reproduction is

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.



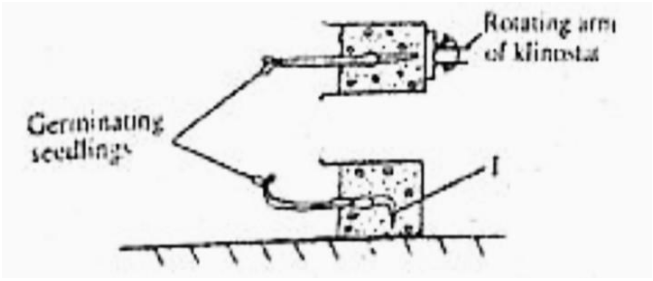
39. The part labelled I is the

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.



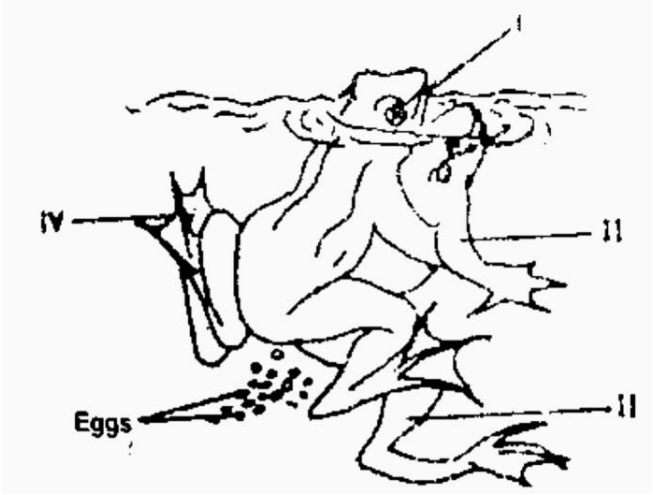
41. The experiment demonstrates

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 labeled

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 illele g, the individual whose genotype is likely to be gg is

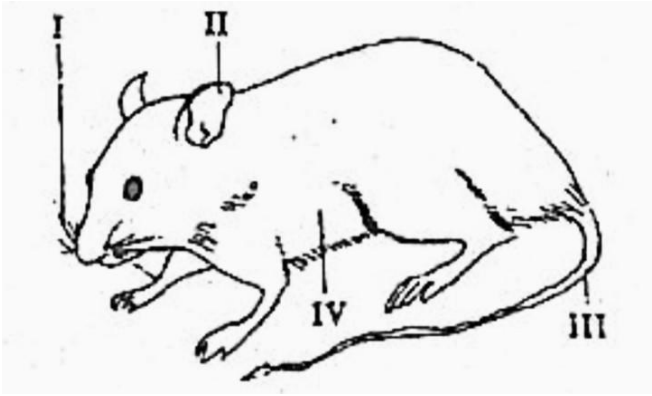
A. I

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 labeled I is

A. tactile

B. radiosensitive

C. photosensitive

D. chemoreceptive

ANSWER KEYS

1. A **2.** B **3.** D **4.** C **5.** D **6.** C **7.** A **8.** B **9.** C **10.** C **11.** B **12.** D **13.** A **14.** A **15.** A **16.** D **17.** B **18.** C **19.** C **20.** C **21.** C **22.** C **23.** A **24.** C **25.** C

26. A **27.** C **28.** A **29.** B **30.** B **31.** B **32.** A **33.** D **34.** D **35.** B **36.** A **37.** D **38.** D **39.** A **40.** B **41.** B **42.** C **43.** C **44.** D **45.** C **46.** C **47.** C **48.** C **49.** B **50.** A

2016 JAMB BIOLOGY QUESTIONS

1. Which of the following structures is a protective adaptive feature of the Agama Lizard to the environment?

A. Nuchal crest
B. Claws
C. Scaly skin
D. Gular fold.

2. Which of the following adapts an insect for feeding?

A. suitable mouthparts
B. paired antennae
C. segmented body
D. jointed appendages

3. Which of the following results from the cross between Yy and Yy?

A. 2Yy-2yy
B. 2Yy:yy:YY
C. YY:2Yy:yy
D. YY: Yy:2yy

4. Which of the following is NOT part of the carbon cycle?

A. Organic carbon
B. Decomposition
C. Nitrates formation
D. Photosynthesis

5. I. Tissues
II. System
III. Cell
IV. Organs

Which of the above is the level of organization of a leaf?

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

6. In cellular respiration, energy is stored in the form of

A. heat energy
B. adenosine diphosphate
C. adenosine monophosphate
D. adenosine triphosphate

7. The principal organ for the manufacture of food in autotrophy is the

A. root hair
B. growing root
C. mature fruit
D. green leaf

8. A disease that results from lack of iodine in the diet of humans is

A. beriberi
B. scurvy
C. rickets
D. goiter

9. The process whereby some organism with certain favourable features get established in an area is

A. gene mutation
B. dispersal
C. overcrowding
D. natural selection

10. The rise and fall of ocean water during the day is referred to as

A. gravity
B. a pull
C. tide
D. zone

11. Which of the following is a producer in an aquatic habitat?

A. Nymphaea
B. Dryopteris
C. planarian
D. Similium

12. The relationship that exist between a shark and Remora is

A. parasitism
B. commensalism
C. saprophytism
D. symbiosis

13. I. Tissue
II. System
III. Cell
IV Organ

The correct sequence of increasing level of complexity is

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

14. Which of the following is not an inheritable disease?

A. Poliomyelitis
B. Sickle-cell anaemia
C. Mental illness
D. Haemophilia

15. Which of the finger print types occur most frequently in the population of human beings

A. Double-loop
B. Whorl
C. Arch
D. Loop

16. Beriberi results from a deficiency of

A. vitamin A
B. vitamin E.
C. vitamin B
D. vitamin C

17. Bacteria which add atmospheric nitrogen to the soil are

A. putrefying bacteria
B. nitrifying bacteria
C. nitrogen fixing bacteria
D. denitrifying bacteria

18. The spines of the hedgehog is an adaptive features for

A. Courtship
B. defence
C. water conservation
D. obtaining food

19. The dental formula of carnivores is represented by

A. I $^{0}/_{3}$, C $^{1}/_{1}$, pm $^{4}/_{4}$, m $^{2}/_{3}$

B. I $^{0}/_{2}$, C $^{1}/_{1}$, pm $^{4}/_{4}$, m $^{2}/_{4}$

C. I $^{2}/_{3}$, C $^{2}/_{1}$, pm $^{3}/_{4}$, m $^{2}/_{3}$

D. I $^{3}/_{3}$, C $^{1}/_{1}$, pm $^{4}/_{4}$, m $^{2}/_{2}$

20. Which of the following instruments is used to measure temperature?

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

21. In human, puffiness and water retention in the body is a possible symptom of

A. bladder malfunction
B. poor digestion
C. kidney malfunction
D. obesity

22. The theory of evolution which postulates that all living organisms have a common ancestor was proposed by

A. Linnaeus
B. Darwin
C. Lamarck
D. Mendel

23. Mammals requires roughage in their food to

A. provide energy
B. slow down aging
C. ease digestion
D. prevent disease

24. Variation can occur among offspring of living organism because

A. seeds are produced by self-pollination
B. zygotes are produced by cross fertilisation
C. they are produced by binary fission
D. they are produced without fertilisation

25. The most important biotic factors which affect plants and animals in the habitat are

A. temperature and rainfall
B. temperature and turbidity
C. salinity and relative humidity
D. rainfall and relative humidity

26. The lowest unit of classification is the

A. Kingdom
B. class
C. phylum
D. species

27. Two important process involved in the absorption and transport of materials in plants are

A. flaccidity and turgidity
B. diffusion and plasmolysis
C. plasmolysis and capillarity
D. osmosis and diffusion

28. A series of organism existing in an ecosystem through which energy is transformed can be referred to as

A. food cycle
B. food chain
C. pyramid on numbers
D. food web

29. The cell organelle solely responsible for respiration is the

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

30. In which part of Nigeria are Mangrove swamps found?

A. Chad Basin
B. Niger Delta
C. Benue Valley
D. Mambilla Plateau

31. The breeding methods that are useful in selective breeding of animals and plants are

A. inbreeding and cross- breeding
B. inbreeding and hetero-breeding
C. inbreeding and out-breeding
D. inbreeding and self-breeding

32. In a small unicellular organism, diffusion is sufficient for transport because

A. the surface area to volume ratio is small
B. they have lungs for diffusion
C. materials have to move over long distance
D. the surface area to volume ratio is large

33. The function of the spinal cord is to

A. stand the body structure erect
B. control involuntary actions
C. transmit impulses to the brain
D. regulates developmental changes

34. The first vertebrates to ventures out of water and lives on land are the

A. Pisces
B. Amphibians
C. Reptiles
D. Aves

35. Which of the following factors mostly determine the major biomes of the world.

A. pressure and wind speed
B. temperature and wind speed
C. pressure and rainfall
D. Temperature and rainfall

36. I. Strong winds
II. high temperature
III. Dry and porous soils.

Which group of plants are specially adapted to grow under environmental conditions stated above?

A. Thallophytic
B. Mesophytes
C. Xerophytes
D. Hydrophytes

37. The lowest unit of a biogeographical plant species is

A. micro flora
B. macro fauna
C. micro fauna
D. macro flora

38. Which of the following is rich source of vitamin K?

A. Tomato
B. Guava
C. Milk
D. Onion

39. Severe diarrhea, dehydration and weakness are symptoms of

A. cholera
B. chickenpox
C. malaria
D. yellow fever

40. A common characteristic found among the crustaceans is the possession of

A. a pair of antennae
B. a pair of walking legs on each segment
C. four pairs of walking legs on the cephalothorax
D. two pairs of antennae

41. In which of the following groups of invertebrates are flagella and cilia found

A. annelids
B. protists
C. coelenterates
D. Anthropods

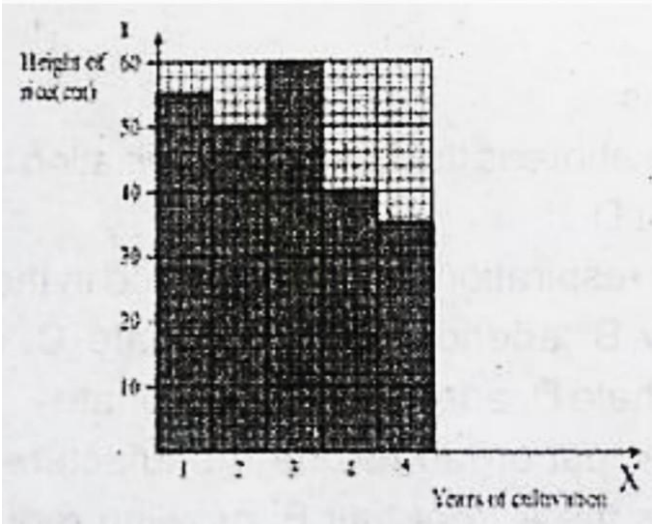
42. Physiological variation in human population is evidence in the

A. difference in the fingerprints
B. physical appearance of individuals
C. differences in height and weight
D. ability to roll the tongue

43. In photosynthesis, oxygen is liberated during

A. conversion of energy
B. photolysis
C. splitting of carbon (IV)oxide
D. glycolysis

Use the information below to answer the question 44 and 45 that follows



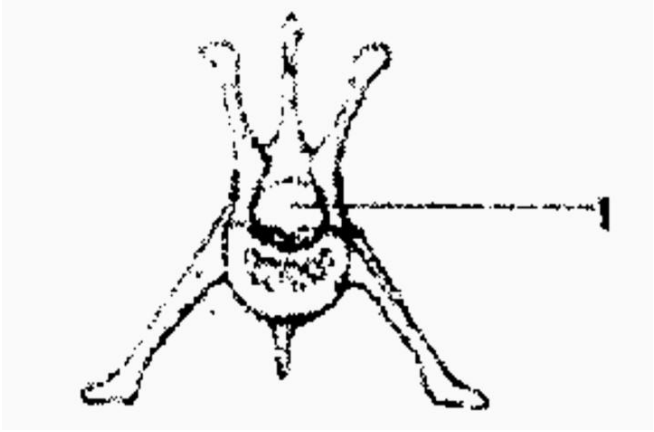
44. What is the total height of rice that grew within the years of cultivation?

A. 240 cm
B. 239 cm
C. 340 cm
D. 339 cm

45. What is the average of the heights of rice within the period of cultivation?

A. 68cm
B. 47.8cm
C. 48cm
D. 67.8cm

46. Use the diagram below to answer the question that follows



The type vertebra represented in the diagram is

A. Atlas
B. Lumbar
C. Axis
D. Sacrum

47. The structure labeled I is

A. Centrum
B. neural canal
C. neural spins
D. transverse process

ANSWER KEYS:

1. C **2.** A **3.** C **4.** C **5.** A **6.** D **7.** D **8.** D **9.** D **10.** C **11.** C **12.** B **13.** D **14.** A **15.** B **16.** B **17.** C **18.** C **19.** B **20.** C **21.** A **22.** C **23.** B **24.** C **25.** B

26. A **27.** D **28.** D **29.** C **30.** D
31. B **32.** C **33.** D **34.** C **35.** B
36. D **37.** C **38.** A **39.** D **40.** A
41. D **42.** B **43.** D **44.** B **45.** B
46. B **47.** B

Facebook Study Group

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Click to **ENTER** **our Facebook study group**



2017 JAMB BIOLOGY QUESTIONS

1. The piercing and sucking mouth parts are found in

A. grasshoppers
B. mosquitoes
C. termites
D. cockroaches

2. The hormones that regulate plant growth are

A. ethylene and auxins
B. auxin and gibberellins
C. cytokinin and abscisic acid
D. ethylene and gibberellins

3. Which of the following pair of organisms exhibit parasitic association?

A. insect and plant
B. cattle and egret
C. shark and remora
D. tsetse-fly and cattle

4. Which of the following group of animals can withstand the rigour of the arid land?

A. locust, camel, lizard and snakes
B. monkeys, chameleon, earthworm and grasshopper
C. monkeys, grasshopper, snail and snakes
D. lungfish, duck, butterfly and lizards

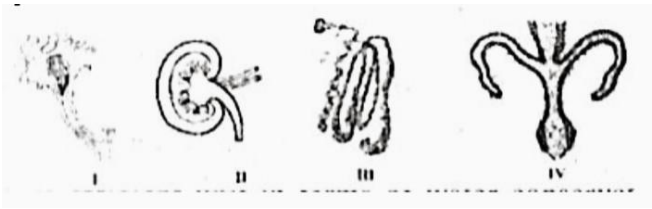
5. Suture joint is found in the

A. hip
B. ankle
C. skull
D. elbow

6. The organelle responsible for osmoregulation in Paramecium is

A. flame cell
B. nephridia
C. contractile vacuole
D. Malpighian tubule

7. **Use the diagram to answer the question that follow**



The excretory organ of an earthworm is represented by

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

8. The platelets in mammalian blood are responsible for

A. transporting oxygen
B. initiating clotting
C. removing carbon (IV) oxide
D. destroying micro-organisms

9. The most important factor that determines the different types of vegetation is

A. light
B. wind
C. temperature
D. rainfall

10. When testing for the presence of starch in a leaf, the reason for dipping the decolourised leaf in hot water is to

A. detect the starch
B. kill the leaf
C. soften the leaf
D. remove the chlorophyll

11. The relationship between remora and shark can best be described as

A. parasitism
B. amensalism
C. mutualism
D. commensalism

12. The major characteristic of a fresh water habitat is the possession of

A. high turbidity
B. high density
C. low salinity
D. high current

13. The causative organism of cholera is

A. Clostridium sp
B. shigella sp
C. vibrio sp
D. salmonella typhi

14. The process that takes place in the dark stage of photosynthesis is

A. oxidation of water
B. photolysis of water
C. oxidation of carbon (IV) oxide
D. reduction of carbon (IV) oxide

15. Chlorofluorocarbons are air pollutants that originates from

A. crude oil refining
B. coal mining
C. motor vehicle exhaust
D. cooling system

16. Which of the following is organ level of organisation?

A. Volvox sp
B. paramecium caudatum
C. hydra viridis
D. onion bulb

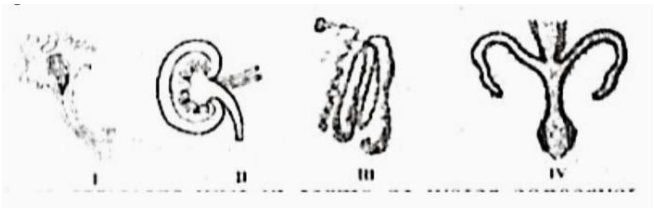
17. The simplest form of reproduction is

A. conjugation
B. budding
C. spore formation
D. binary fission

18. Which of the following is a characteristic of wind-pollinated flower?

A. flowers lack nectar
B. flowers are conspicuous
C. flowers have perianths
D. flowers are bisexual

19. **Use the diagram to answer the question that follow**



The most eminent unit in terms or water conservation is represented by

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

20. The process required for formation of gamete in sexual reproduction is

A. implantation
B. fertilisation
C. mitosis
D. meiosis

21. In an experiment to determine the humus in a soil sample the following results were obtained

Mass of dish - 20g
Mass of dry soil - 7.5g
Mass of dish + soil after burning = 25g

The percentage of humus in the given sample is

A. 9.1
B. 37.5
C. 12.5
D. 33.3

22. The presence of termites and earthworms in soil promote

A. porosity and fertility
B. porosity and aeration
C. aeration and fertility
D. acidity and aeration

23. In a 15m2 habitat, the total number of Tridax counted using a 1.6m2 quadrant thrown randomly 50 times was 400. What is the Tridax

A. 12
B. 16
C. 8
D. 5

24. Which of the following is a sex-link character?

A. Dwarfism
B. Albinism
C. Tongue rolling
D. Colour blindness

25. The outer-most tissue of the herbaceous roots is the

A. cuticle
B. pericycle
C. epidermis
D. endodermis

26. The respective tissues that transport water and manufactured food in plants are

A. xylem and phloem
B. phloem and tracheid
C. phloem and xylem
D. xylem and tracheid

27. An adaptive feature of plants in the savanna is

A. fissured bark
B. few grasses
C. tall trees
D. long lifespan

28. A grasshopper's cuticle becomes green during the season and black after fire. The reasons for the change is ---

A. obtain food
B. predators
C. secure mates
D. escape detection

29. Which of the following is the most advance plant?

A. merchantia
B. Dryopteris
C. Chlamydomonas
D. Spirogyra

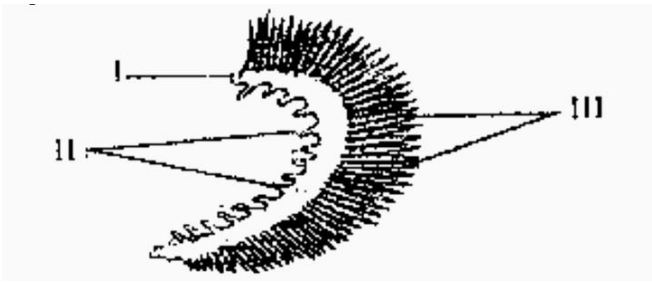
30. The soil type with the least ability to retain nutrients is

A. sandy loam
B. clay loam
C. loam
D. sand

31. A humming bird is able to feed on nectar because its beak is

A. short, slender and ridged
B. short, strong and conical
C. long, slender and slightly curved
D. long, wide and slightly curved

Use the diagram to answer the question that follow



32. The part labelled III acts as

A. water outlet
B. food strainer
C. exchange surface
D. blood transporter

33. The effect of overcrowding is

A. immigration
B. reduced competition
C. emigration
D. reduced mortality

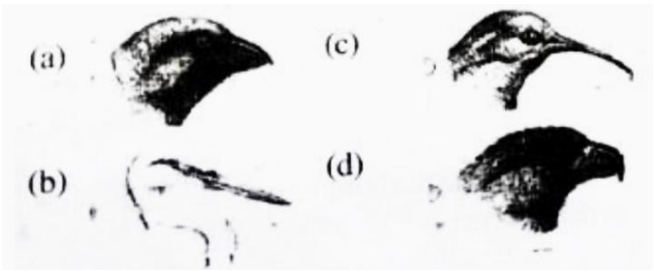
34. The vertebrae that allows the skull to nod and rotate are

A. axis and cervical
B. atlas and thoracis
C. axis and atlas
D. atlas and cervical

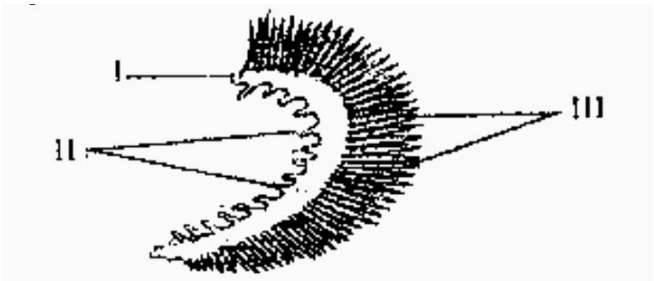
35. The component of the cell that determines paternity resides in the

A. centrosome
B. ribosome
C. nucleus
D. mitochondria

36. Which of the following beak type is an adaption for aquatic feeding?



37. **Use the diagram to answer the question that follow**



The part labelled II is the

A. arch
B. filament
C. slit
D. raker

38. The insect-trapping by the leaves of Venus flytrap is an example of a

A. adaptive coloration
B. structural adaptation
C. environmental adaptation
D. behaviour adaptation

39. Morphological variation in humans include

A. height, skin, colour and tongue rolling
B. weight, finger prints and body shape
C. height, weight and blood group
D. skin colour, blood and height

40. Which of the following is correct about blood transfusion?

A. Group AB can only receive from groups A and B and not from group O
B. Group O can receive from groups A and B and from AB
C. Group B can only donate to blood group B and not to AB and O
D. Group O can donate to groups A, B and AB but cannot receive

ANSWERS

1. B **2.** B **3.** D **4.** A **5.** C **6.** C **7.** C **8.** B **9.** D **10.** C **11.** D **12.** C **13.** C **14.** D **15.** D **16.** D **17.** D **18.** A **19.** D **20.** D

21. B **22.** C **23.** D **24.** B **25.** A **26.** A **27.** D **28.** D **29.** D **30.** D **31.** C **32.** C **33.** C **34.** C **35.** C **36.** B **37.** D **38.** B **39.** B **40.** D

2018 JAMB BIOLOGY QUESTIONS

1. A group of closely related organisms capable of interbreeding to produce fertile offspring are known as members of a

A. kingdom
B. class
C. family
D. species

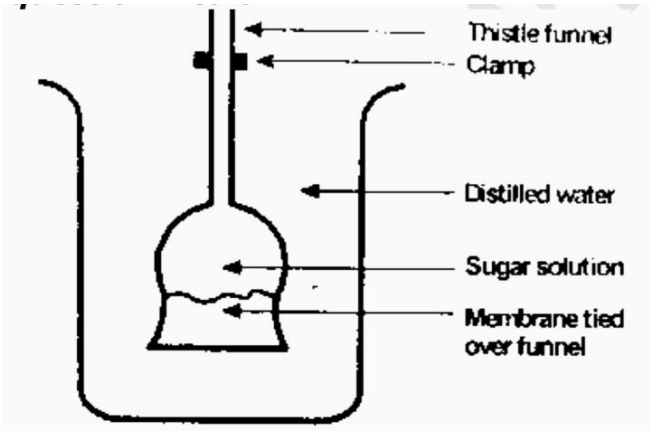
2. A beaker of pond water containing few specimens of Euglena was placed in a dark room for two weeks. At the end of this period, the specimens of Euglena were still alive because they were

A. able to carry out holozoic nutrition
B. able to carry out photosynthesis using carbon dioxide in the pond water
C. better adapted to life in darkness than to life in light
D. not overcrowded

3. The cytoplasm of the cell is considered a very important component because it

A. regulates the amount of energy in the cell
B. suspends all cell organelles
C. is the outermost part of the cell
D. is solely responsible for cell division

Use the diagram below to answer question 4 to 6



4. After an hour, the level of water in the thistle funnel will

A. rise
B. fall
C. remain the same
D. double

5. The experiment is used to demonstrate the process of

A. transportation
B. water culture
C. diffusion
D. Osmosis

6. In a plant cells, the role of the membrane is played by the

A. nucleolus
B. cell wall
C. cytoplasm
D. mitochondrion

7. Red blood cells were found to have burst open after being placed in distil for an hour. This phenomenon is known as

A. plasmolysis
B. diffusion
C. haemolysis
D. wilting

8. The curvature movement of plants in response to the stimulus of water is called

A. hydrotropism
B. geotropism
C. Phototropism
D. thigmotropism

9. The overall reaction in glycolysis can be summarised as

A. $C_6H_{12}O_5$ --$C_3H_4O_3$ + 4H + ATP
B. $C_6H_{12}O_6$ ---- $2CH_4O_3$ + 4H + 2ATP
C. $C_6H_{12}O_6$---> $2CH_4O_3$ + 4H + ADP
D. $C_6H_{12}O_6$ $2C_3H_4O_3$+ 4H + 2ADP

10. The longest bone in the body is the

A. humerous
B. femur
C. scapula
D. tibia

11. Which of the following structures is not a skeletal material?

A. Chitin

B. Cartilage

C. Bone

D. Muscle

12. The reason why the flow of blood through the capillaries is very slow is

A. because the walls of capillaries are very thin

B. to avoid high — blood pressure

C. to ensure that the individual does not get dizzy

D. to allow adequate time for exchange of materials

13. Which of the following groups of organisms has kidney as their excretory organ?

A. Fishes, amphibians, birds, man

B. Fishes, amphibians, annelids, insects

C. Fishes, reptiles, birds, tapeworms

D. Fishes protozoans, amphibians, man

14. Which of the following features is not a characteristic of arteries? Arteries

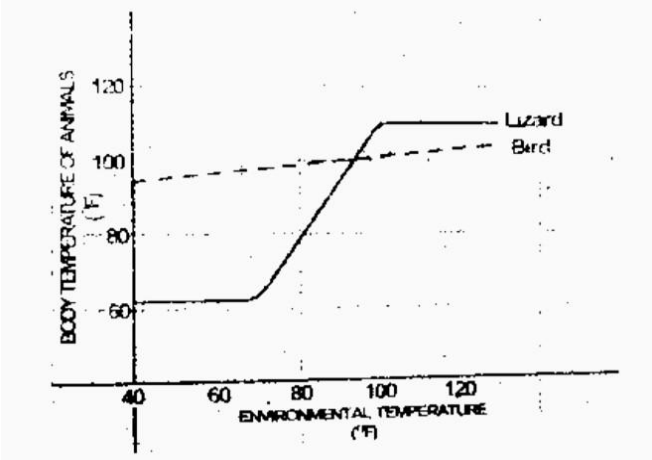
A. possess values at internals throughout their length.

B. have thick muscular and elastic walls

C. carry blood away from the heart

D. transport oxygenated blood with the exception of the pulmonary artery.

The graph below shows the results of a laboratory investigation which measured the body temperatures of a lizard and a bird under changing artificial conditions.



15. Which of the statements below is valid?

A. The bird's blood was always warmer than that of the lizard.
B. The body temperature of the bird varied less than that of the lizard during changes in environmental temperature.
C. The body temperature of the bird remained constant despite changes in environmental temperature.
D. The body temperature of the lizard was always close to that of the environmental temperature.

16. What physiological term can be used to describe the regulation of the body temperature of the lizard?

A. Homeostasis
B. Homeothermy
C. Poikilothermy
D. Osmoregulation

17. The reason why hospitals use saline solutions as drip instead of water is

A. because salt is a preservative
B. to prevent contamination of the body
C. to maintain the composition of body fluids
D. to increase the number of blood cells

18. The part of the ear which contains nerve cells sensitive to sound vibrations is the

A. cochlea
B. ampulla
C. tympanum
D. malleus

19. Spectacles with convex lenses correct long-sightedness by

A. converging the Light rays before they enter the eye
B. diverging the light rays before they enter the eye

C. reducing light intensity before it enters the eye
D. increasing light intensity before it enters the eye

20. A seed of a flowering plant can best be described as

A. radicle and plumule
B. the developed ovule
C. the embryo and endosperm
D. developed ovary

21. Which of the following processes removes carbon from the atmosphere?

A. Putrefaction
B. Photosynthesis
C. volcanic eruption
D. Burning fuels

22. Which of the following cycles involves the process of precipitation and transpiration?

A. Water cycles
B. Carbon cycle
C. Nitrogen cycle
D. oxygen cycle

23. What is the critical limiting factor for plants below the photic zone in an aquatic ecosystem?

A. Availability of nutrients
B. Availability of water
C. intensity of light
D. Carbon dioxide concentration

24. Which of the following instruments is used to estimate the number of plants in a habitat?

A. Pooter
B. Pitfall trap
C. Quadrat
D. Sweep net

25. Which of the following statements is true about sandy soil? It

A. has limited air space
B. is light and easy to dig
C. drains slowly
D. is heavy and poorly aerated

26. Which of the following organisms is a primary consumer?

A. Dog
B. Sheep
C. Grass
D. Fungus

Study the diagram of a food chain shown below and use it to answer question 27 and 28.

P→Q→R→S→T

27. The organism designated P in the food chain above is normally sustained by energy from

A. sunlight
B. carbohydrates
C. green plants
D. mineral salts

28. Which of the following statements best describes the organism designated R? It

A. feeds on S.
B. is a primary consumer.
C. is a producer as well as a consumer
D. is a secondary consumer

29. Which of the following diseases is not hereditary?

A. Albinism
B. Scabies
C. Haemophilia
D. Colour blindness

30. The immediate product of meiosis in flowering plants is the

A. sporophyte
B. gametophyte
C. zygote
D. pollen grains

31. DNA in eukaryotic cells is contained in the

A. central vacuole
B. nucleus
C. lysosome
D. golgi body

32. A man who is heterozygous for the disease haemophilia marries a woman who is double recessive for haemophilia. What percentage of their offspring would have the disease?

A. 0%
B. 25%
C. 50%
D. 75%

33. Cytokinesis of mitosis is a process that ensures that

A. each daughter cell gets the necessary organelle
B. there is distribution of a complete set of genes into each daughter cell.
C. daughter cells inherit new genetic combinations.
D. worn out organelles are excluded from daughter cells

34. An animal which is active during the day is known as a

A. nocturnal animal
B. diurnal animal
C. terrestrial animal
D. homoatomic animal

35. Evidence of evolution include the following except

A. fossil records
B. comparative anatomy
C. mutation of genes
D. geographical distribution of organisms

Use the diagram below to answer question 36 and 37.



36. The diagram shows that the organisms are

A. hermaphrodite
B. viviparous
C. oviparous
D. ovoviparous

37. The breeding posture illustrated in the diagram is known as

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

38. An accurate identification of a rapist can be carried out by it conducting a

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

39. A boy who is fond of swimming in a pond finds himself passing urine with traces of blood. He is likely to have contracted

A. schistosomiasis
B. onchocerciasis
C. poliomyelitis
D. salmonellosis

40. The flippers of a whale and the fins of a fish are examples of

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

ANSWER KEYS

1. D **2.** A **3.** B **4.** A **5.** D **6.** B **7.** C **8.** A **9.** B **10.** B **11.** D **12.** D **13.** A **14.** A **15.** C **16.** C **17.** A **18.** A **19.** A **20.** B

21. B **22.** A **23.** C **24.** C **25.** B **26.** B **27.** A **28.** D **29.** B **30.** D **31.** B **32.** C **33.** B **34.** B **35.** D **36.** C **37.** A **38.** B **39.** A **40.** A

APPRECIATION

If you found these past questions **helpful**, here are some ways you can **contribute** to the exam success of other TOPPERS:

- **Correct an error** in this past question
- **Update** this past question
- **Submit a past question** for another subject

Are you interested in contributing?

Yes, I am!

