



BIOLOGY

BOOKS - FULL MARKS BIOLOGY (TAMIL ENGLISH)

SAMPLE PAPER - 1

Bio Botany Part I

1. Six kingdom classification was proposed by

A. Haeckel

B. Copeland

C. Woese

D. Cavalier-Smith

Answer:



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2. Clasping roots are also called as

A. pillar

B. stilt

C. clinging

D. buttress

Answer:



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3. The coconut water and the edible part of coconut are equivalent to.....

A. endosperm

B. endocarp

C. mesocarp

D. embryo

Answer:



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4. The first botanical garden was established and maintained by

A. Linnaeus

B. Babylonians

C. Theophrastus

D. Stebbins

Answer:



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5. The DNA protein complex present in the centromere is

..... .

A. Cyclin

B. Kinesis

C. MPF

D. Kinetochore

Answer:



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6. The vascular bundles in cucurbita are described as _____ .

- A. Bicollateral
- B. Collateral closed
- C. Concentric
- D. Radial

Answer:



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7. Which of the following performs anaerobic photosynthesis ?

- A. Green sulphur bacteria
- B. Cyanobacteria
- C. Purple sulphur bacteria
- D. Green filamentous bacteria

Answer:



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8. Identify the day neutral plants.

- A. Pea
- B. Wheat
- C. Tomato
- D. Soyabean

Answer:



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Bio Botany Part Ii

1. What are Archaeobacteria?



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2. What is root cap?



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3. What do you understand by the term "Pomology"?



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4. Classify plastids based on storage & mention their storage component.

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5. Which meristem is responsible for secondary growth in dicots ?
Mention its types .

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6. Given an account of Xanthophylls .

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1. Write any two demerits of Five Kingdom classification.



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2. How the leaf hooks helps the Bignonia plant ?



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3. List out the properties of Water.



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4. Draw the stoma with dumb - bell shaped guard cell.



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5. Define translocation of organic solutes.

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Bio Botany Part Iv

1. Describe the salient features of Phacophyeeae members.

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2. Compare Transmission Electron Microscope with Scanning Electron Microscope.

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3. Is bacterial photosynthesis similar to photosynthesis in higher plants? Reason out.



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4. Explain the physiological effects of ethylene.



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Bio Zoology Part I

1. Uricotelisum is found in

- A. Mammals and birds
- B. Birds, reptiles and insects

C. Fishes and fresh water protozoans

D. Frogs and toads

Answer:



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2. Bone cells are called a s

A. Neurons

B. Osteoblasts

C. Epithelial cells

D. Chondrocytes

Answer:



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3. SA -

- A. Sinoatrial node
- B. Systolic atrial node
- C. Systemic atrial node
- D. Sino aorta node

Answer:



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4. Match the List I and List II:

List I

1. Small intestine
2. Pancreas
3. Liver
4. Colon

List II

- (i) Carrying electrolytic solution
- (ii) Digestion and absorption
- (iii) Absorption of glucose
- (iv) Largest factory

A. 1-(i), 2-(ii), 3-(iii), 4-(iv)

B. 1-(ii), 2-(i), 3-(iv), 4-(iii)

C. 1-(iv), 2-(iii), 3-(ii), 4-(i)

D. 1-(iv), 2-(ii), 3-(i), 4-(iii)

Answer:



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5. Which of the following statement is correct?

A. Polyp forms are free living

B. Medusa forms are sessile

C. Medusa produces gametes

D. Polyp reproduces sexually

Answer:



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6. Which of the following statement is in incorrect with regard to ecosystem?

- A. It includes living and non-living things
- B. It shows interrelationship among living things
- C. It shows interrelationship among living and non-living things
- D. It has a large number of species

Answer:



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7. What is Nissl's granule consist of ?

- A. DNA
- B. RNA
- C. Protein
- D. Lipid

Answer:



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8. Ranikhet, coccidiosis and Fowl pox are

- A. Chicken breeds
- B. Types of poultry forming
- C. Poultry diseases

D. Types of breeding methods

Answer:



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Bio Zoology Part II

1. What is diploblastic animals?



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2. Define hermaphrodite plant



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3. How do you distinguish between a skeletal muscle and a cardiac muscle?



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4. Write a note on BMI.



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5. Explain the respiratory system of Rana hexadactyla .



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6. Mention the functions of frontal and temporal lobes of the Brain.

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Bio Zoology Part Iii

1. List out the five kingdoms classification.

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2. Differentiate oviparous and viviparous condition.

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3. Label the given diagram.

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4. Define Isinglass.



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5. Write the symptoms of cretinism.



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Bio Zoology Part Iv

1. Explain the classification of animal tissues.



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2. Explain the disorders of the respiratory system .



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3. Describe the important steps in muscle contraction.



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4. Name the components of nervous system.



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Bio Botany Part I

1. Which of the most common mode of asexual reproduction in bacteria ?

A. Endospore formation

B. Fission

C. Budding

D. Conidia

Answer: B



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2. Botanical survey of India has regional centres in India.

A. 10

B. 11

C. 12

D. 13

Answer: B



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3. Which of the following is not a mitogen ?

A. Giberellin

B. Ethylene

C. Kinetin

D. Colchicine

Answer: D



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4. Enzymes that catalyse interconversion of optical, geometrical or positional isomers are

- A. Ligases
- B. Lyases
- C. Hydrolases
- D. Isomerases

Answer: D



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5. Which of the following is responsible for the mechanical support ,protein synthesis and enzyme transport

- A. cell membrane

- B. mitochondria
- C. dictyosomes
- D. endoplasmic reticulum

Answer: D



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6. Usually, the monocotyledons do not increase their girth, because

- A. They possess actively dividing cambium
- B. They do not possess actively dividing cambium
- C. Ceases activity of cambium
- D. All are correct

Answer: B



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7. Which bacterium is NOT involved in Denitrification ?

- A. Pseudomonas
- B. Thiobacillus
- C. Bacillus subtilis
- D. Nitrobacter

Answer: D



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8. Usually chlorophyll molecules are considered as physiological units of photosynthesis.

A. 300 - 700

B. 200 - 300

C. 240 - 750

D. 200 - 280

Answer: B



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9. During conjugation in bacteria, which of the following is transferred from donor to recipient cell?

A. R factor

B. F factor

C. Ti factor

D. Ri factor

Answer: B



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10. Roots are

A. descending, negatively geotropic, positively phototropic

B. descending, positively geotropic, negatively phototropic

C. ascending, positively geotropic, negatively phototropic

D. ascending, negatively geotropic, positively phototropic

Answer: B



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11. Which of the following plant produces bulbils ?

- A. Bryophyllum
- B. Begonia
- C. Allium proliferum
- D. Solanum americanum

Answer: C



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12. Undistinguished sepal and petal is called as

- A. Petaloid

B. Staminode

C. Perianth

D. Sepaloid

Answer: C



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13. The thylakoids in chloroplast are arranged in

A. regular rings

B. linear array

C. diagonal direction

D. stacked discs

Answer: D



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14. Munch hypothesis is based on

- A. Translocation of food due to TP gradient and imbibition force
- B. Translocation of food due to TP
- C. Translocation of food due to imbibition force
- D. None of the above

Answer: B



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15. Electro magnetic spectrum consists of types of radiation.

A. 2

B. 4

C. 6

D. 8

Answer: D



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16. Bakanae's disease was first noticed by

A. F.W. Went

B. Kurosawa

C. Cocken

D. Denny

Answer: B



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17. Ergot alkaloids are produced by

- A. *Penicillium notatum*
- B. *Acremonium chrysogenum*
- C. *Claviceps purpurea*
- D. *Penicillium griseofulvum*

Answer: C



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18. The plants that grows on dry habitats are called

- A. mesophytes
- B. xerophytes
- C. lithophytes
- D. psammophytes

Answer: B



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19. Vexillary aestivation is characteristic of the family

- A. Fabaceae
- B. Asteraceae
- C. Solanaceae
- D. Brassicaceae

Answer: A



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20. Life span of the cells is determined by

A. Kinetochore

B. Satellite

C. Chromatin

D. Telomere

Answer: D



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21. Which of the following is also called as direct division ?

- A. Amitosis
- B. Meiosis
- C. Mitosis
- D. Reduction division

Answer: A



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22. Which of the following is termed as Cork ?

- A. Phellem
- B. Periderm
- C. Phellogen
- D. Phelloderm

Answer: A



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23. The element which is not remobilized?

A. Phosphorous

B. Potassium

C. Calcium

D. Nitrogen

Answer: C



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24. The term vernalisation was first used by

A. Chailakyan

B. Garner & Allard

C. Lysenko

D. FW. Went

Answer: C



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25. Algal partner of lichen is

A. phycobiont

B. phytobiont

C. mycobiont

D. both (a) & (c)

Answer: D



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26. Zygote meiosis is characteristic of

A. Marchantia

B. Fucus

C. Funaria

D. Chlamydomonas

Answer: D



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27. The study about external features of an organism is known as

A. morphology

B. anatomy

C. physiology

D. taxonomy

Answer: A



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28. Which of the following plants root is a Immunomodulator ?

A. *Glycyrrhiza glabra*

B. *Dalbergia latifolia*

C. *Mucum pruriens*

D. *Crotolaria jurcea*

Answer: A



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29. Yeast cells undergo

A. Open mitosis

B. Closed mitosis

C. Amitosis

D. Meiosis

Answer: B



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30. Root hairs originated from

A. Trichomes

B. Epidermis

C. Pericycle

D. Trichoblasts

Answer: D



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31. Rate of water movement through xylem is

.....

A. 65 cm/second

B. 75 cm/second

C. 12 cm/second

D. 82 cm/second

Answer: B



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32. Photosynthetic organisms use only ____ of incident solar light on earth.

A. 0.2

B. 0.6

C. 0.1

D. 0.8

Answer: A



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33. Actinomycetes comes underkingdom.

- A. fungi
- B. chromista
- C. monera
- D. protista

Answer: C



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34. Which of the following are found in extreme saline conditions?

- A. Archaeobacteria
- B. Eubacteria

C. Cyanobacteria

D. Mycobacteria

Answer: A



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35. Which part of embryo develops into stem ?

A. Radicle

B. Micropyle

C. Ostia

D. Plumule

Answer: D



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36. Duplicate specimen of holotype is

A. Lectotype

B. Isotype

C. Neotype

D. Syntype

Answer: B



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37. Which is not a pyrimidine base?

A. Cytosine

B. Uracil

C. Guanine

D. Thymine

Answer: C



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38. Who coined the term Hadrome ?

A. Hanstein

B. Nageli

C. Hofmeister

D. Haberlandt

Answer: D



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39. Exanthema in citrus caused by the deficiency of

A. Mo

B. Cu

C. B

D. Zn

Answer: B



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40. Identify the non-climacteric fruit.

A. Tomato

B. Grapes

C. Apples

D. Mango

Answer: B



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41. The size of TMV is

A. $300 \times 20 \text{ mm}$

B. $300 \times 200 \mu m$

C. $300 \times 20 nm$

D. $300 \times 20 \text{\AA}$

Answer: C



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42. Respiratory roots are found in

A. Sweet potato

B. Bruguiera

C. Mango

D. Dahlia

Answer: B



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43. The term biosystematics was introduced by

A. Bauhin

B. Camp & Gilly

C. Cronquist

D. Smith

Answer: B



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44. Which organelle has a single unit membrane ?

A. Ribosomes

B. Glyoxysomes

C. Polysomes

D. Nucleus

Answer: B



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45. Golgi complex plays a major role in

- A. post translational modification of proteins and glycosidation of lipids
- B. translation of proteins
- C. Transcription of proteins
- D. Synthesis of lipid

Answer: A



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46. Interfascicular cambium originates from

- A. Procambium

B. Vascular cambium

C. Pith

D. Medullary rays

Answer: D



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47. ABA stands for

A. Abscissic Acid

B. Ascorbic Acid

C. Acetyl Butyric Acid

D. Acetic Acid

Answer: A

48. Identify true statement regarding light reaction of photosynthesis

- A. Splitting of water molecule is associate with PS I
- B. PS I and PS II involved in the formation of $NADPH + H^+$
- C. The reaction center of PS I is Chlorophyll a with absorption peak at 680 nm
- D. The reaction center of PS II is Chlorophyll a with absorption peak at 700 nm.

Answer: D

49. Kojic acid is produced by

- A. *Aspergillus terreus*
- B. *Aspergillus niger*
- C. *Aspergillus oryzae*
- D. *Agaricus bisporus*

Answer: C



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50. When perennial plants bear fruits every year they are called as

- A. polycarpie
- B. ephemerals

C. annual

D. therophyte

Answer: A



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51. Imperfect flowers will have essential whorl(s).

A. only 1

B. 2

C. none

D. 4

Answer: A



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52. Scientist who named the cytoplasm as "Sarcode" is ____

- A. Dujardin
- B. Corti
- C. Purkinje
- D. Hugo Van Mohl

Answer: A



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53. Number of carbon molecule in glucose is

.....

- A. 4
- B. 6

C. 8

D. 12

Answer: B



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54. Secondary growth is absent in.....

A. Gymnosperms

B. Angiosperms

C. Dicots

D. Monocots

Answer: D



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55. Pollen germination requires mineral.

- A. Copper
- B. Molybdenum
- C. Chlorine
- D. Boron

Answer: D



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56. Anaerobic respiration occurs only in

- A. Mitochondria
- B. Golgi bodies

C. Nucleus

D. Cytoplasm

Answer: D



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57. Rust of wheat is produced by

A. *Albugo candida*

B. *Puccinia graministritici*

C. *Candida albicans*

D. *Colletotrichum* sp.

Answer: B



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58. When the root is thick and fleshy, but does not take a definite shape, it said to be _____

- A. nodulose root
- B. tubercular root
- C. moniliform root
- D. fasciculated root

Answer: B



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59. The false septum seen in siliqua fruits is

- A. frenulum
- B. micropyle

C. raphae

D. replum

Answer: D



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60. Which of the following organelle is believed to be an endosymbiont ?

A. Ribosomes

B. Mitochondrion

C. Golgi bodies

D. Nucleus

Answer: B



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61. Proteins perform many physiological functions. For example some functions as enzymes. One of the following represents an additional function that some proteins discharge :

- A. Antibiotics
- B. Pigment conferring colour to skin
- C. Pigments making colours of flowers
- D. Hormones

Answer: D

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62. Phellogen arises from, in dicot roots.

- A. Endodermis
- B. Piliferous layer
- C. Pericycle
- D. Periderm

Answer: C



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63. 'Law of Minimum' was proposed by

- A. Van Helmont S.
- B. Von Sachs
- C. Wood word
- D. Liebig

Answer: D



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64. Pyruvic oxidation occurs in

- A. Cytoplasm
- B. Mitochondrial matrix
- C. Inner membrane of mitochondria
- D. Both cytoplasm and mitochondrial membrane

Answer: B



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65. Identify the criteria not used in classifying viruses by Baltimore

- A. ss (or) ds
- B. use of RT
- C. capsid
- D. sense or antisense

Answer: C



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66. Negatively geotropic roots are seen in plant like

- A. Beta vulgaris
- B. Hibiscus

C. Rhizophora

D. Euphorbia

Answer: C



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67. Who is the father of Taxonomy?

A. Engler & Prantl

B. Linnaeus

C. Theophrastus

D. Darwin

Answer: B



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68. Scientist who described chromosomes for the first time is.....

- A. Robert Brown
- B. Anon Van Leeuwenhoek
- C. Boveri
- D. Anton Schneider

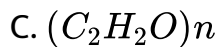
Answer: D



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69. Write the molecular formula for cabohydrates?

- A. $(CH_2O)_n$
- B. (CH_6O)



Answer: A



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70. Osmotic pressure is represented by Greek letter

A. α

B. π

C. Ψ

D. θ

Answer: B



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71. Insectivorous plants usually seen indeficient soil .

- A. Sulphar
- B. Nitrogen
- C. Carbon
- D. Potassium

Answer: B



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72. Number of diecot species performing C_4 pathway is

- A. 200
- B. 300

C. 800

D. 1000

Answer: B



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Bio Botany Part Ii

1. Define phycology.



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2. How the seeds are classified based on endosperm?



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3. Define Taxonomy.



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4. What is kinetochore?



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5. State any two vital role of water in plants.



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6. Write the overall equation for respiration.



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7. What is transformation? Name the bacteriologist who described it.



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8. What is Canada Balsam ?



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9. Define herbarium specimen.



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10. Distinguish between Karyokinesis & Cytokinesis .



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11. Write down the significance of imbibition.



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12. Give an account on RUBISCO.



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13. Lichens are useful in the studies of atmospheric pollution because they



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14. What is plant morphology ?



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15. Write the floral formula of *Pisum sativum*.



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16. What is the role of MPF in Cell cycle ?



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17. Give an account on Aquaporin.



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18. How chlorophyll b differs from chlorophyll a ?



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19. What are Endospores?



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20. What is a staminode? Give example.



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21. How does study of Mitochondrial DNA help in evolutionary studies ?



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22. Why oil does not get mixed if added with water?



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23. On which basis, the carrier proteins are classified ? Mention its types.



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24. What is Richmond Lang effect?



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25. Write the distinguishing features of monera.



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26. What is plectostele? Give example.



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27. Name the three types of petals in papilionaceous corolla.



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28. What is cytoplasmic streaming?



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29. How primary meristem differs from secondary meristem ?



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30. Given the overall equation of photosynthesis.



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31. Distinguish between Isogamy and Oogamy with example.



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32. What are the parts that constitute the typical leaf ?



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33. Cronquist classification is a failure. Justify



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34. What is polymerization?



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35. What is " bundle cap " or " hard bast"?



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36. How did blackman classify respiration ?



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37. What are sporophylls ?



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38. How velamen helps the Vanda plant ?



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39. Name the major classes of Bentham & Hooker Classification.



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40. Define cell pool and mention its constituents.



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41. Define Pith.



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42. State Blackman's law of limiting factor.



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43. Define metabolism. Mention its types.



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44. Classify the terrestrial plants based on their adaptation.



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45. What is spathe?



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46. Draw the molecular structure of water.



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47. State the types of lateral meristem , their role in woody plants

.



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48. Explain Anti-auxins.



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49. Define epiphytic algae with an example.



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50. Name the two primary functions of roots.



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51. What is Stramonium?



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52. Why amitosis is called as ineipient cell division ?



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53. What is the need for transport in plants ?



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54. Define the term photosynthetic pigment .



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Bio Botany Part Iii

1. What are the different types of asexual reproduction in living organisms.?



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2. Study of morphology is important in taxonomy. Why?



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3. How lattice formation occurs in water molecule?



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4. Draw and label the structure of oxysomes.



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5. Write a note on Epigeal & hypogeal germination.



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6. Write any two merits of Five Kingdom classification.



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7. How root climbers differ from stem climbers?



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8. What is serotaxonomy?



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9. Draw the structure of ATP molecule.



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10. What is the name of final of senescence?



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11. Cladode is a stem modification. Comment on it.



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12. Why do we need the classification of organisms ?



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13. Distinguish between rough endoplasmic reticulum and smooth endoplasmic reticulum.



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14. Give a short note on EDTA.



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15. Draw a graph of sigmoid curve.



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16. Describe homeostasis.



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17. Draw und label the parts of a leaf.



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18. What are the uses of molecular taxonomy?



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19. When do you call the perforation plate in vessels as simple ?



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20. Mention the role of Sulphur in plants.



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21. Write any three differences between chlorophyceae and phaeophyceae members?



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22. Describe fibrous root system.



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23. How will you identify the presence of starch in a food sample.



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24. Compare Hypertonic, Hypotonic and Isotonic solution .



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25. What is substrate level phosphorylation?



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26. Write a simple note on Oomycetes.



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27. Differentiate between monopodial and sympodial branching.



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28. What is giant chromosome?



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29. Describe the structure of stomata.



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30. What is Re-differentiation?



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31. Name the 3 types of life cycles seen in plants?



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32. Define venation. Mention its types.



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33. List out the properties of Water.



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34. Draw and label the transverse section of monocot stem.



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35. List the conclusions obtained by Hill's reaction.



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36. What are cryptogam? Mention its division.



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37. Differentiate between polycarpic and monocarpic perennial.



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38. Write about Mesokaryotes?



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39. Draw the annular and reticulate types of secondary wall thickening in tracheids.



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40. Draw a Flow Chart illustrating various types of cell to cell transport .



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41. Mention any three Pteridophytes and their economic value.



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42. Define Placentation & mention their types.



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43. List out the components of Electron Microscope.



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44. Draw a schematic diagram to show reverse osmosis.



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45. Write the equation for reductive amination.



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1. How are flowers classified based on the position of ovary?



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2. Describe the structure of Mitochondria.



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3. Explain Protein - Lecithin Theory.



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4. Tabulate the different types of photosynthetic pigments .



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5. List out the general characteristics of Bryophytes.



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6. Name the medicinal plants of fabaceae and write the useful part and their uses



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7. Differentiate between stoma & hydathode.



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8. Describe the structure of chloroplast.



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9. Write down the characteristic features of Rhodophyceae.



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10. Write the Binomials of any three medicinally useful plants in Liliaceae.



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11. Describe the K^+ Transport theory on transpiration .



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12. Differentiate between Photosystem I and Photosystem II.



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13. Define bud. Explain the types of buds based on location.



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14. List out the function of cell wall.



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15. Describe ringing experiment with diagram.



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16. Write the flow chart of Glycolysis.



Watch Video Solution

17. Explain the various types of asexual reproduction in fungi.



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18. Define special inflorescence.



Watch Video Solution

19. Explain in detail about the symbiotic nitrogen fixation with nodulation.



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20. Tabulate any two differences between Cyclic and Non-Cyclic photophosphorylation.



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21. Draw a flow chart illustrating stem modifications.



Watch Video Solution

22. Explain in detail about the various stages of Prophase I.



Watch Video Solution

23. Draw the structure of hydathode



Watch Video Solution

24. Explain the Calvin Cycle (Flow chart only).



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25. What are the two types of multiplication of phages?



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26. List out the economic importance of plants belonging to Solanaceae & their uses.



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27. Differentiate between stoma & hydathode.



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 [Watch Video Solution](#)

28. Explain the step involved in paper chromatography .



[Watch Video Solution](#)

29. Describe the salient features of Chlorophyceae members.



[Watch Video Solution](#)

30. Discuss in detail about the physical properties of protoplasm.



[Watch Video Solution](#)

31. Tabulate the difference between active absorption and passive absorption.



[Watch Video Solution](#)

32. Describe the various stages of nitrogen cycle.



[Watch Video Solution](#)

33. List out the characteristics of leaf.



[Watch Video Solution](#)

34. Write any three significance of mitosis .



[Watch Video Solution](#)

35. Describe the various stages of nitrogen cycle.



[Watch Video Solution](#)

36. Draw a Flow chart of Kreb's cycle.



[Watch Video Solution](#)

Bio Zoology Part I

1. Method of dispersal in Amoeba is

- A. Locomotion
- B. Encystment
- C. Sporulation
- D. Binary fission

Answer: B



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2. Gonads of Obelia occur in

- A. On blastocyst
- B. Inhydrula stage
- C. Radial canals of medusa
- D. Bases of entacles of medusa

Answer: C



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3. Match the List I and List II :

List I	List II
(Name of bone)	(Number of Bones)
1. Fore limb	(i) 2
2. Skull	(ii) 2
3. Pectoral girdle	(iii) 29
4. Pelvic girdle	(iv) 60

A. 1 - (iv), 2 - (iii), 3 - (ii), 4 - (i)

B. 1 - (iii), 2 - (iv), 3 - (i), 4 - (ii)

C. 1 - (i), 2 - (ii), 3 - (iii), 4 - (iv)

D. 1 - (iv), 2 - (ii), 3 - (iii), 4 - (i)

Answer: A



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4. ABIS stands for

- A. Anatomy Bee Identification system
- B. Automatic Bee identification system
- C. Automatic Book Identification system
- D. Advanced Bee Identification system

Answer: B



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5. Which of the following is an correct statement ?

- A. Glycosomes is the functional unit of the skeletal muscle.
- B. Skeletal muscle is attached to the bone by a bundle of collagen fibres known as fascicle.
- C. Myoglobin is a red-coloured respiratory pigment of the muscle fibre.

D. The cytoplasm of the muscle fibre is called endomysium.

Answer: C



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6. Which of the following is an incorrect statement ?

A. Turtles spend most of their life in the water.

B. Tortoises are primarily terrestrial.

C. Most of the turtles are short and sturdy with bent legs.

D. Carpace of tortoise is usually dome-shaped.

Answer: C



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7. A decrease in blood pressure/volume will not cause the release of.

A. Atrial natriuretic factor

B. Aldosterone

C. ADH

D. Renin

Answer: A



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8. How many pairs of spinal nerve are found in human ?

A. 33

B. 32

C. 31

D. 30

Answer: C



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9. is celebrated as World Sparrow Day.

A. April 20

B. March 20

C. April 19

D. March 19

Answer: B



Watch Video Solution

10. Which of the following is pseudocoelomate?

A. Nematode

B. Chordate

C. Echinodermata

D. Arthropoda

Answer: A



Watch Video Solution

11. Match the List I and List II :

List I (Characters) (List II (Female Cockroach))

- | | |
|----------------|------------------------|
| 1. Anal styles | (i) Short and broad |
| 2. Brood pouch | (ii) Shorter in length |
| 3. Antenna | (iii) absent |
| 4. Abdomen | (iv) Present |

A. 1 - (iii), 2 - (iv), 3 - (ii), 4 - (i)

B. 1 - (iv), 2 - (iii), 3 - (i), 4 - (ii)

C. 1 - (i), 2 - (iv), 3 - (iii), 4 - (ii)

D. 1 - (ii), 2 - (iii), 3 - (i), 4 - (iv)

Answer: A



Watch Video Solution

12. PNS stands for

A. Primary Neural System.

B. Primary Neuron System.

C. Peripheral Neural System.

D. Posterior Neuron System.

Answer: C



Watch Video Solution

13. Which of the following is an correct statement ?

- A. The major cause for Asthma is cigarette smoking.
- B. Tuberculosis mainly occurs in the lungs and bones.
- C. Pneumonia is caused by Mycobacterium tuberculae.
- D. Asthma is an inflammation of the lining of bronchial tubes.

Answer: B



Watch Video Solution

14. Which of the following is an incorrect statement ?

- A. Cervical nerves consist of 12 pairs.

B. Thoracic nerves consist of 5 pairs.

C. Lumbar nerves consist of 6 pairs.

D. Coccygeal nerves consist of 1 pair.

Answer: D



Watch Video Solution

15. Excretory organs of cockroach are

A. Malpighian corpuscles

B. Malpighian tubules

C. Hepatic caecum

D. Green glands

Answer: B



[Watch Video Solution](#)

16. In which bone triangular acromion is present ?

- A. Radius
- B. Scapula
- C. Femur
- D. Humerus

Answer: B



[Watch Video Solution](#)

17. Who is known as the "Father of Botany" ?

- A. Aristotle

B. Carolus Linnaeus

C. Theophrastus

D. Tansley

Answer: C



Watch Video Solution

18. The pigment haemocyanin is found in

A. Mollusca

B. Chordate

C. Echinodermata

D. Annelida

Answer: B

19. Match the List I and List I:

	List I (Characters)		List II (Segments of <i>Lampito mauritii</i>)
1.	Pharynx	(i)	5 th Segment
2.	Oesophagus	(ii)	7 th Segment to anus
3.	Gizzard	(iii)	3 rd - 4 th Segment
4.	Intestine	(iv)	6 th Segment

A. 1 - (iii), 2 - (i), 3 - (iv), 4 - (ii)

B. 1 - (iv), 2 - (ii), 3 - (iii), 4 - (i)

C. 1 - (ii), 2 - (iii), 3 - (iv), 4 - (i)

D. 1 - (iv), 2 - (ii), 3 - (i), 4 - (iii)

Answer: A

20. TLC stands for

- A. Total Liver Capacity
- B. Total Tidal Capacity
- C. Total Lung Capacity
- D. Total Light Capacity

Answer: D



Watch Video Solution

21. Which of the following is a correct statement ?

- A. Pons Varoli forms the posterior most part of the brain.
- B. Medulla Oblongata lies infront of the cerebellum between the mid brain and Pons.
- C. Cerebellum is the second largest part of the brain.
- D. The function of temporal brain lobe is visual processing.

Answer: A



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22. Which of the following is an incorrect statement ?

- A. Pincal gland regulates the timing of sexual maturation of gonads.
- B. Thymus gland is the largest endocrine gland in the body.
- C. Sporadic goitre is a genetic disease and is not caused by iodine or thyroxine deficiency.
- D. Melatonin is secreted at night.

Answer: A



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23. A kidney stone is

- A. Blockage by fats
- B. Deposition of sand in kidney
- C. A salt such as oxalate crystallised in pelvis
- D. Blockage by proteins

Answer: C



Watch Video Solution

24. In humans, coccyx is formed by the fusion of vertebrae.

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

D. 6

Answer: C



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25. Taxonomic category arrange in descending order

A. Key

B. Hierarchy

C. Taxon

D. Taxonomic category

Answer: D



Watch Video Solution

26. In which of the following organisms, self fertilization is seen.

- A. Fish
- B. Round worm
- C. Earth worm
- D. Liver fluke

Answer: D



Watch Video Solution

27. Match the List I and List II :

List I	List 2
1. Mycology	Study of birds
Ornithology	Study of fungi
Herpetology	Study of fishes
Lethylogy	Study of reptiles

A. 1 - (i), 2 - (ii), 3 - (iii), 4 - (iv)

B. 1 - (ii), 2 - (i), 3 - (iv), 4 - (iii)

C. 1 - (iv), 2 - (iii), 3 - (i), 4 - (ii)

D. 1 - (iii), 2 - (iv), 3 - (ii), 4 - (i)

Answer: B



Watch Video Solution

28. In earthworm the female genital aperture lies on the ventral side in the __segment.

A. 18th

B. 10th

C. 14th

D. 8th

Answer: C



Watch Video Solution

29. Which of the following statement is correct

- A. All veins carry deoxygenated blood.
- B. All arteries carry deoxygenated blood.
- C. All veins carry deoxygenated blood except one.
- D. All arteries carry deoxygenated blood except one.

Answer: D

30. Which of the following is an incorrect statement ?

- A. Bruner's glands are present in the submucosa of stomach
and secrete pepsinogen.

B. Goblet cells are present in the mucosa of intestine and secrete mucus.

C. Oxyntic cells are present in the mucosa of stomach and secrete HCl.

D. Acini are present in the pancreas and secrete carboxypeptidase.

Answer: A



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31. The cranial bones are

A. 22

B. 14

C. 8

D. 3

Answer: C



Watch Video Solution

32. Which of the following has bipolar neurons ?

A. Interneurons.

B. Cranial nerves.

C. Spinal nerves.

D. Inner ear

Answer: D



Watch Video Solution

33. Who coined the word Taxonomy?

- A. Waksman
- B. Candolle
- C. Leuwenhoek
- D. Louis pasteur

Answer: B



Watch Video Solution

34. Mouth parts of housefly are

- A. Piercing and sucking type.
- B. Biting and sucking type.
- C. Sponging and sucking type.

D. Biting and chewing type.

Answer: C



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35. Match the List I and List II :

List I (Character)	List II (Segments of Metaphire posthuma)
1. Micronephridia	(i) 15th to last segment
2. Meganephridia	(ii) 18th Segment
3. Male genital pore	(iii) 14th Segment
4. Female genital pore	(iv) 7th to last segment

A. 1 - (iv), 2 - (i), 3 - (ii), 4 - (iii)

B. 1 - (i), 2 - (ii), 3 - (iii), 4 - (iv)

C. 1 - (iii), 2 - (iv), 3 - (i), 4 - (ii)

D. 1 - (ii), 2 - (iii), 3 - (i), 4 - (iv)

Answer: A



[Watch Video Solution](#)

36. ANS stands for.....

- A. Anterior Nervous System
- B. Anterior Neuron System
- C. Apical Nervous System
- D. Autonomous Nervous System

Answer: D



[Watch Video Solution](#)

37. Which of the following is an correct statement ?

- A. Pulmonary embolism is an inflammation of the lining of your bronchial tubes.
- B. Bronchitis is a blood clot that occurs in the lungs.
- C. Asthma is a condition in which airways narrow and swell and produce extra mucus.
- D. Emphysema is a condition in which the pleura becomes inflamed.

Answer: C



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38. Which of the following is an incorrect statement ?

- A. Myoglobin is heme containing protein that binds molecular oxygen in muscle cells.

B. Sarcolemma is muscle cell membrane capable of propagating action potentials.

C. Cartilage is a protein found in the cytoskeleton and muscle cells.

D. Mesoderm is a middle embryonic germ layer.

Answer: C



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39. Urea is transformed through

A. RBCs

B. WBCs

C. Blood plasma

D. All of the above

Answer: C



Watch Video Solution

40. Which is the skull bone

A. Atlas

B. Femur

C. Tibia

D. Nasal

Answer: D



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41. The secondary host of Taenia is

A. Snail

B. Pig

C. Man

D. Dog

Answer: B



Watch Video Solution

42. The study of tissues is known as

A. Physiology

B. Ecology

C. Histology

D. Anatomy

Answer: C



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43. Match the List I and List II

List I (Common Name) List II (Genus)

- | | |
|-----------|-------------|
| 1. Dog | (i) Bos |
| 2. Cat | (ii) Canis |
| 3. Lion | (iii) Felis |
| 4. Cattle | (iv) Leo |

A. 1 - (iii), 2 - (iv), 3 - (i), 4 - (ii)

B. 1 - (ii), 2 - (iii), 3 - (iv), 4 - (i)

C. 1 - (iv), 2 - (iii), 3 - (ii), 4 - (i)

D. 1 - (iii), 2 - (iv), 3 - (ii), 4 - (i)

Answer: B



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44. AMS stands for

- A. Artificial Mountain Sickness
- B. Acute Mountain Sickness
- C. Allergy Metabolic Sickness
- D. Allergy Mountain Sickness

Answer: B



Watch Video Solution

45. Which of the following is an correct statement ?

- A. Contraction of both atria lasts for around 0.7-1.0 sec.
- B. The normal QRS complex lasts for 0.06 - 0.09 sec.

C. The ST segment lasts for 0.06 sec.

D. The time for an impulse to travel from the atria to the ventricles is around 0.12 -0.5 sec

Answer: B



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46. Which of the following is an incorrect statement ?

A. Muscle contraction is initiated by the signal from CNS.

B. In isotonic contraction the length of the muscle changes but the tension remains constant.

C. A single glycogen molecule may contain 8000 glucose units compared to that of 5000 individual glucose molecules.

D. The lack of myoglobin gives pale colour to the fibres, so they are termed as white muscle fibres.

Answer: C



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47. Which one protects the lungs?

- A. Ribs
- B. Vertebral column
- C. Sternum
- D. All of the above

Answer: D



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48. Nerve related to diaphragm is

- A. Trigeminal
- B. Vagus
- C. Glossopharyngeal
- D. Phrenic

Answer: D



Watch Video Solution

49. Parthenogenesis can be seen in

- A. Frog
- B. Honey bee

C. Moth

D. All of these.

Answer: B



Watch Video Solution

50. Fibroblasts macrophages and mast cells are present in :

A. Cartilage tissue

B. Areolar tissue

C. Adipose tissue

D. Glandular epithelium

Answer: B



Watch Video Solution

51. Match the List I and List II :

List I (Cranial nerves) List II (Function)

- | | |
|---------------------|-------------------------------|
| 1. Olfactory nerve | (i) Movement of the eye |
| 2. Optic nerve | (ii) Rotation of the eye ball |
| 3. Oculomotor nerve | (iii) Sense of sight |
| 4. Trochlear nerve | (iv) Sense of smell |

A. 1 - (iv), 2 - (iii), 3 - (i), 4 - (ii)

B. 1 - (iii), 2 - (iv), 3 - (i), 4 - (ii)

C. 1 - (ii), 2 - (i), 3 - (iv), 4 - (iii)

D. 1 - (i), 2 - (iii), 3 - (iv), 4 - (ii)

Answer: A



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52. ICMR stands for

- A. Indian Council of Medical Research
- B. Indian Centre of Medical Research
- C. International Centre of Medical Research
- D. Israel Centre of Medical Research

Answer: A



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53. Which of the following is a correct statement ?

- A. Hyposecretion of thyroid in adults causes acromegaly.
- B. Gigantism is due to hypersecretion of growth hormone (GH) in Children.
- C. Simple goitre is also known as thyrotoxicosis.
- D. Grave's disease is also called Tetany.

Answer: B



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54. Which of the following is an incorrect statement ?

- A. The first Vertebra is called as the atlas.
- B. The second Vertebra is called as the axis.
- C. The Vertebral column protects the spinal cord.
- D. The first six pairs of ribs are called true ribs.

Answer: D



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55. An example of gliding joints is

- A. Humerus and glenoid cavity
- B. Femur and tibio – fibula
- C. Occipital condyle and odontoid process
- D. Zygapophyses of adjacent vertebrae

Answer: B



Watch Video Solution

56. Which of the following is not a effect of hypothyroidism ?

- A. Mental stress
- B. Edema
- C. Increase Ca^{2+} level in blood
- D. To be lethargic

Answer: A



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57. Caterpillar and maggot are

- A. Larvae
- B. Nymphs
- C. Adults
- D. pupa

Answer: A



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58. The excretory material of bony fish is.....

A. Urea

B. Protein

C. Ammonia

D. Amino acid

Answer: C



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59. Match the List I and List II

List I (Name)	List II (Phylum)
---------------	------------------

- | | |
|--------------|-----------------|
| 1. Cockroach | (i) Mollusca |
| 2. Earthworm | (ii) Arthropoda |
| 3. Frog | (iii) Annelida |
| 4. Snail | (iv) Chordata |

A. 1 - (ii), 2 - (iii), 3 - (ii), 4 - (iv)

B. 1 - (ii), 2 - (iii), 3 - (iv), 4 - (i)

C. 1 - (iii), 2 - (ii), 3 - (iv), 4 - (ii)

D. 1 - (iv), 2 - (iii), 3 - (ii), 4 - (i)

Answer: B



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60. CPCB stands for

A. Central Police Control Board

B. Central Pollution Control Board

C. Compressed Pollution Control Board

D. Central Primary Control Board

Answer: B



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61. Which of the following is a correct statement ?

- A. Dub sound is associated with the closure of the AV valves.
- B. Lub sound is associated with the closure of the semilunar valves.
- C. Diastole is relaxation of heart chambers.
- D. Endocardium is the outer cardiac muscle.

Answer: C



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62. Which of the following is an incorrect statement ?

- A. Sternum is a flat bone on the mid ventral line of the thorax.

B. There are 14 pairs of ribs in human beings.

C. The metatarsus consists of five bones called metatarsals.

D. The skull is composed of two sets of bones namely cranial and facial bones.

Answer: B



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63. Which is the National Aquatic animal of India?

A. River Dolphin

B. Blue whale

C. Sea horse

D. Gangetic shark

Answer: A



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64. Red muscle are rich in

- A. Golgi bodies
- B. Mitochondria
- C. Lysosomes
- D. Ribosomes

Answer: B



Watch Video Solution

65. Three domain classification was proposed by :

A. Aristotle

B. Carlous Linnaeus

C. Carl Woese

D. Wilson

Answer: C



Watch Video Solution

66. Blood worms are the larvae of

A. Hirudinaria

B. Chironomus

C. Limulus

D. Daphia

Answer: B



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67. Match the List I and List II

	List I (Glands)		List II (Functions)
1.	Salivary glands	(i)	Stores bile
2.	Liver	(ii)	Moistens food
3.	Gall bladder	(iii)	Secretes digestive enzymes
4.	Pancreas	(iv)	Produces bile

A. 1 - (ii), 2 - (iv), 3 - (i), 4 - (iii)

B. 1 - (i), 2 - (ii), 3 - (iv), 4 - (iii)

C. 1 - (iii), 2 - (iv), 3 - (i), 4 - (ii)

D. 1 - (iv), 2 - (iii), 3 - (ii), 4 - (i)

Answer: A



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68. MSH stands for.....

- A. Myobin Stimulating Hormone
- B. Myosin Secreting Hormone
- C. Melanocyte Stimulating Hormone
- D. Metabolic Stimulating Hormone

Answer: C



Watch Video Solution

69. Which of the following is a correct statement ?

- A. The sclerites of the dorsal side of cockroach is known as pleurites.
- B. The adult cockroaches are about 2 to 4 cm in length.

C. The sclerites of the ventral side of cockroach is called as tergites.

D. The sclerites of the lateral sides of cockroach is known as sternites.

Answer: B



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70. Which of the following is an incorrect statement ?

A. Fibrous joints are immovable fixed joints in which no movement between the bones is possible.

B. Cartilaginous joints are slightly movable joints in which the joint surfaces are separated by a cartilage.

C. Sutures of the flat skull bones are pivot joint.

D. Synovial joints are freely movable joints.

Answer: C



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71. Vocal cords occur in

A. Pharynx

B. Larynx

C. Glottis

D. Bronchial tube

Answer: B



Watch Video Solution

72. Deficiency of calciferol causes

- A. Scurvy
- B. Leucopenia
- C. Rickets
- D. Leukaemia

Answer: C



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Bio Zoology Part II

1. Define ecosystem.



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2. What are the larvae of flatworms?



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3. How is sexual reproduction different from asexual reproduction ?



Watch Video Solution

4. Draw the diagram of Hiatus hernia.



Watch Video Solution

5. What is normal blood glucose level in human beings ?



Watch Video Solution

6. Give the economic importance of prawn fishery.



Watch Video Solution

7. What is the peculiarity of "biradially symmetrical"?



Watch Video Solution

8. Define:-

Parkinson's disease.



Watch Video Solution

9. Differentiate between tergum and a sternum.



Watch Video Solution

10. Define - vocal cords.



Watch Video Solution

11. Draw the diagram of C.S. of spinal cord ?



Watch Video Solution

12. Explain any three functions of Testosterone.



Watch Video Solution

13. List three features that characteristise bony fishes.



Watch Video Solution

14. How will you identify Alzheimer's disease.



Watch Video Solution

15. Differentiate between probiotic and pathogenic bacteria.



Watch Video Solution

16. Define - Cloaca.



Watch Video Solution

17. Draw the diagram of the nephron.



Watch Video Solution

18. What are true ribs ? Why ?



Watch Video Solution

19. List out the three characteristics of porifera.



Watch Video Solution

20. How will you identify tuberculosis disease ?



Watch Video Solution

21. Define dioecious plant



Watch Video Solution

22. Draw the diagram of Balanoglossus.



Watch Video Solution

23. What is ciliary movement?



Watch Video Solution

24. What are the symptoms of Myasthenia gravis disease.



Watch Video Solution

25. What is e-taxonomic resources ?



Watch Video Solution

26. Define:-

Sjogren's syndrome



Watch Video Solution

27. Why are villi present in the intestine and not in the stomach ?



Watch Video Solution

28. Draw the diagram of Graph of a normal ECG.



Watch Video Solution

29. Name the different types of movement.



Watch Video Solution

30. List any three common uses of shellac.



Watch Video Solution

31. What are Threatened species?



Watch Video Solution

32. Who is author of 'fall of sparrow' and explain it ?



Watch Video Solution

33. Distinguish between Agnatha and Gnathostomata.



Watch Video Solution

34. Draw the diagram of Rana hexadactyla - Brain dorsal view .



Watch Video Solution

35. Who discovered "Helicobacter pylori".



Watch Video Solution

36. Explain the bones that form the skull.



Watch Video Solution

37. What is Metagenesis?



Watch Video Solution

38. Write short notes on Rhabdomyosarcoma.



Watch Video Solution

39. Head of cockroach is called Hypognathous. Why ?



Watch Video Solution

40. What is the End Systolic Volume (ESV) ?



Watch Video Solution

41. Draw the diagram of cone cells and label the parts.



Watch Video Solution

42. The old age people are sick often, why ?



Watch Video Solution

43. How did Aristotle classify organisms ?



Watch Video Solution

44. What is Metamerism ?



Watch Video Solution

45. Why do you call cockroach a pest?



Watch Video Solution

46. Define - Absorption.



Watch Video Solution

47. Write the difference between Rod cells and Cone cells.



Watch Video Solution

48. Draw the diagram of the nephron.



Watch Video Solution

49. What is Biodiversity?



Watch Video Solution

50. Define - Planula larva.



Watch Video Solution

51. Distinguish between

- (a) Simple epithelium and compound epithelium.
- (b) Cardiac muscle and striated muscle
- (c) Dense regular and dense irregular connective tissues
- (d) Adipose and blood tissue
- (e) Simple gland and compound gland



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52. Draw the diagram of structure of alveoli.



Watch Video Solution

53. What is myoglobin ?



Watch Video Solution

54. What are the functions of neuroglia ?



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Bio Zoology Part Iii

1. List out the characteristics of Cephalochordata ?



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2. Differentiate White adipose tissue from Brown adipose tissue.



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3. How do earthworms breathe?



[Watch Video Solution](#)

4. Draw the diagram of different types of cultivable fishes.



[Watch Video Solution](#)

5. How does an isotonic contraction take place?



[Watch Video Solution](#)

6. What are pseudocoelomates ?



 [Watch Video Solution](#)

7. How does the male frog attracts the female for mating?

 [Watch Video Solution](#)

8. Differentiate White adipose tissue from Brown adipose tissue.

 [Watch Video Solution](#)

9. Define - Sternum.

 [Watch Video Solution](#)

10. Draw the diagram of cone cells and label the parts.



[Watch Video Solution](#)

 [Watch Video Solution](#)

11. List the unique features of bird's endoskeleton.

 [Watch Video Solution](#)

12. Distinguish between invertebrates and vertebrates.

 [Watch Video Solution](#)

13. Define - Macrophages.

 [Watch Video Solution](#)

14. Draw the diagram of Eosinophils and Neutrophils.

 [Watch Video Solution](#)

15. What are the functions of hypothalamus?



[Watch Video Solution](#)

16. What is PCR?



[Watch Video Solution](#)

17. Define mast cells.



[Watch Video Solution](#)

18. Differentiate between anus and cloaca.



[Watch Video Solution](#)

19. Draw the diagram of brain stem and label the parts.



Watch Video Solution

20. What are the advantages of artificial insemination ? D



Watch Video Solution

21. What are the advantages of bilateral symmetrical animals?



Watch Video Solution

22. Differentiate bones from cartilage.



Watch Video Solution

23. Distinguish between mitral valve and semi lunar valve.



Watch Video Solution

24. Draw the diagram of Ball and socket joint and label the parts.



Watch Video Solution

25. What is amoeboid movement ?



Watch Video Solution

26. Define:-

Rheumatoid arthritis



Watch Video Solution

 Watch Video Solution

27. Write the classification of *Periplaneta americana*.

 Watch Video Solution

28. How does rigor mortis happen?

 Watch Video Solution

29. Draw a neat labeled diagram of human liver and pancreas.

 Watch Video Solution

30. Define - oxytocin.

 Watch Video Solution

[Watch Video Solution](#)

31. Name some Automated Species identification tools or Cyber tools.

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32. Why flatworms are called acoelomates?

 [Watch Video Solution](#)

33. Differentiate between polycarpic and monocarpic perennial.

 [Watch Video Solution](#)

34. Draw the diagram of skeletal muscle and lable the parts.



Watch Video Solution

35. Specify the symptoms of acromegaly



Watch Video Solution

36. List the functions of air bladder in fishes.



Watch Video Solution

37. Compare closed and opened circulatory system.



Watch Video Solution

38. Write a note on the economic importance of frog and for what purpose its used as a traditional medicine?



Watch Video Solution

39. Draw the diagram and label the parts of path of sound wave in human ear.



Watch Video Solution

40. Specify the symptoms of acromegaly.



Watch Video Solution

41. Name the functions of epithelial tissue.

 [Watch Video Solution](#)

42. Differentiate between maxillary teeth and vomerine teeth.

 [Watch Video Solution](#)

43. What are the types of salivary glands ?

 [Watch Video Solution](#)

44. Draw the diagram of structure of the heart.

 [Watch Video Solution](#)

45. Define - Appendicular skeleton.

 [Watch Video Solution](#)

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Bio Zoology Part Iv

1. Write a short note on Vermitech and Vermiculture, Vermicomposting, Vermiwash.



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2. Write a short note on respiratory capacities.



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3. Draw the diagram of pelvic girdle with lower limb.



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4. Explain the sensory function of skin.



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5. List the unique features of bird's endoskeleton.



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6. Define sliding filament theory of muscle contraction.



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7. Write the peculiar characters of duck.



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8. What are the rules of Nomenclature?



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9. Write a note on neural tissue.



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10. Explain the structure of a skeletal muscle fibre.



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11. Write the peculiar functions of spinal cord.



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12. Draw the flowchart of classification of phylum Chordata.



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13. Draw the diagram and label the parts of dorsal and ventral view of earthworm.



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14. Explain the disorders of skeletal system.



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15. Tabulate the Cranial nerves and its function.



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16. Draw the digestive system of frog and label the parts.



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17. Explain the conditions which creates problems in oxygen transport.



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18. List the disorders of muscular system.



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19. Comment on the social organization of honey bees.



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20. Describe the excretory system of "Periplaneta americana".



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21. Draw the the structure of Blood Vessel - Large Vein.



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22. What is muscle contraction and what are the types of muscle contraction?



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23. Describe the structures of olfactory receptors.



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24. Write brief notes on Arthropoda and Mollusca.

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25. Morphological and anatomical differences between *Lampito mauritii* and *Metaphire posthuma*.

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26. Tabulate the difference between sympathetic and parasympathetic neural system.

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27. Explain the mechanism of vision.



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28. List out the diagnostic features of phylum Ctenophora.



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29. How respiration takes place in cockroach?



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30. Explain the hormones regulating the kidney function.



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31. Classify neurons on the basis of number of axon and dendrites.



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32. Write the general characteristics of phylum Echinodermata .



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33. Explain the morphology of cockroach.



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34. Write the functions of skeletal system.



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35. Explain the Autonomic Neural system.



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