



# BIOLOGY

## BOOKS - SARAS PUBLICATION

### MODEL QUESTION PAPER-3

#### Exercise

1. Phylogenetic classification is the most favoured classification because it reflects

..... .

A. Comparative Anatomy

B. Number of flowers produced

C. Comparative cytology

D. Evolutionary relationships

**Answer:**



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**2. Who proposed Tunica - Corpus theory**

A. Hanstein

B. Schmidt

C. Popham

D. Sanio

**Answer:**



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**3.** Curcuma amada, Curcuma domestica,

Asparagus, Maranta are example of \_\_\_\_\_

A. Tuberous root

B. Beaded root

C. Moniliform root

D. Nodulose root

**Answer:**



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4. When a plant is transferred from water to a salt solution, the rate of respiration increases. This phenomenon is called

- A. Anion respiration
- B. Active respiration
- C. Passive respiration
- D. Ionic respiration

**Answer:**



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5. The compound which links glycolysis and Krebs' cycle is

A. succinic acid

B. pyruvic acid

C. acetyl CoA

D. citric acid

**Answer:**



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**6. Growth rate becomes zero in**

A. Lag phase

B. Log phase

C. Decelerating phase

D. Maturation phase

**Answer:**



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7. Many cells function properly and divide mitotically even though they do not have

A. Plasma membrane

B. Cytoskeleton

C. Mitochondria

D. Plastids

**Answer:**



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**8.** One strand of DNA has the following sequence of nucleotide 3'ATTCGCTAT5'. So the other strand of DNA has



A. 5' TAAGCGATA 3'

B. 3' TAAGCGATA 5'

C. 5' GACGCGATA 3'

D. 3' GACGCGATA 5'

**Answer:**



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9. What is the end result of lytic cycle of multiplication?



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10. What is a pistillode?

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11. What do you infer from the term pycnoxylic?

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12. Define involute ptyxis. Give examples.



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**13. What is serotaxonomy?**



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**14. What is anastral mitosis.**



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**15. Define dendroclimatology.**



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**16.** What is Svedberg units ?



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**17.** Distinguish between nitrogenous base and a base found in inorganic chemistry.



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**18.** Write the distinguishing features of monera.



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**19.** Define phyllotaxy. Mention its types.



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**20.** How phosphorylase enzyme opens the stomata in starch-sugar interconversion?

theory ?



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21. Why is that in certain plants deficiency symptoms appear first in parts of the plants while in others, they do so in mature organs?



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22. Define the term plasticity. Give example.



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**23.** Do you think shape of chloroplast is unique for algae. Justify your answer.



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**24.** What is cladogram? Draw a model cladogram.



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**25.** Write the chemical composition of mitochondria.



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**26.** Comment on the heterophylly in terrestrial plants.



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**27.** Can bacteria reproduce sexually. Justify.





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**28.** Differentiate cytokinesis in plant cells and animal cells.



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**29.** Explain sclereids with their types.



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**30.** Explain the insectivorous mode of nutrition in angiosperms?



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**31.** In Botany class, teacher explains, Synthesis of one glucose requires 30 ATPs in  $C_4$  plants and only 18ATPs in  $C_3$  plants. The same teacher explains  $C_4$  plants are more advantageous than  $C_3$  plants. Can you identify the reason for this cont





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**32.** Respiration quotient is one is carbohydrates. Why?



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**33.** A group of organisms having similar traits of a rank is

A. Species

B. Taxon

C. Genus

D. Family

**Answer:**



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**34.** The respiratory pigment in cockroach is

A. Haemoglobin

B. Haemocyanin

C. Oxyhaemoglobin

D. Haemoerythrin

**Answer:**



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**35.** Asseration (A) : Large intestine also shows the presence of villi like small intestine.

Reason (B) : Absorption of water

A. Both A and B are true and B is the correct explanation of A

B. Both A and B are true but B is not the correct explanation of A

C. A is true but B is false

D. A is false but B is true

**Answer:**



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**36.** The Tidal Volume of a normal person is

A. 800 mL

B. 1200 mL

C. 500 mL

D. 1100- 1200 mL

**Answer:**



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**37.** The diagram given here is the standard ECG of a normal person. The P wave represents the



- A. Contraction of both the atria
- B. Initiation of the ventricular contraction.
- C. Beginning of the systole.
- D. End of systole

**Answer:**



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**38. ....** are the structural and functional unit of kidneys.



A. Neuron

B. Nephron

C. Cyton

D. Dendron

**Answer:**



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**39. Assertion (A) :** Rapid muscle spasms occur in the muscles.

**Reason(R):** Due to deficiency of parathyroid

hormone resulting in reduced calcium levels in the body

A. (R) is correct but (A) is wrong

B. (A) is correct but (R) is wrong

C. (A) is correct but (R) explains (A)

D. Both (A) and (R) are correct

**Answer:**



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**40.** List the features that all vertebrates show at some point in their development.



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**41.** What is nictitating membrane?



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**42.** What is inspiration?



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**43.** What is the nitrogenous waste produced by amphibian larvae and by the adult animal?



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**44.** What is choroid plexus?



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**45.** Define hyperparasitism.



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**46.** What is Nomenclature?



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**47.** Tissues are called the living fabrics of an organisms - Elucidate



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**48.** What is deglutition?



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**49.** What is Glisson's capsule



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**50.** Oxygen carrying capacity is high in RBCs.

Why?



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**51.** What is called haematocrit?



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**52.** Name the filaments present in the sarcomere.



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**53.** What is actin?



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**54.** Why insulin is called hypoglycemic hormone ?



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**55.** Mention any two role of glucagon in our body.



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**56.** Diffusion of gases occurs in the alveolar region only and not in the other parts of respiratory system. Why?



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**57.** Sketch a flow chart to show the path way of air flow during respiration.



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**58.** What is metamorphosis in frog?



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**59.** Which of the following change happens during metamorphosis of tadpole?



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**60.** Name the stages of metamorphosis in frog.



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**61.** Distinguish between arteries and veins.



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**62.** Right ventricular wall is thinner than the left ventricular wall. Why ?



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**63.** Tabulate the difference between sympathetic and para sympathetic neural system.



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