

HP BOARD March, 2018

Time : 3 Hrs.

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SECTION-A

1. The basic unit of taxonomy is

(a) Class (b) Order (c) Genus (d) Species

2. CORM is modification of

(a) Root (b) Bud (c) Stem (d) Leaf

3. Endoskeleton of cell is

(a) Cell wall (b) Endoplasmic Reticulum (c) Cytoplasm (d) Mitochondria

4. Molybdenum (Mo) is the essential constituent of

(a) Nitrogenase (b) Respiratory chain (c) Growth regulators (d) Chloroplast

5. Difference between SYSTOLIC and DIASTOLIC pressure is

(a) 120 mm Hg (b) 80 mm Hg (c) 40 mm Hg (d) 20 mm Hg

SECTION-B

6. Differentiate between gram positive and gram negative bacteria?

OR What is the difference between dicots and monocots ?

7. Give the Location of hepatic caeca in cockroach? What is their function ?

8. State the role of pancreatic juice in the digestion of proteins.

OR

State the difference between blood and lymph.

9. What are the steps involved in formation of a root module?

10. What is tidal volume ? Find out the tidal volume for a healthy human in an hour.

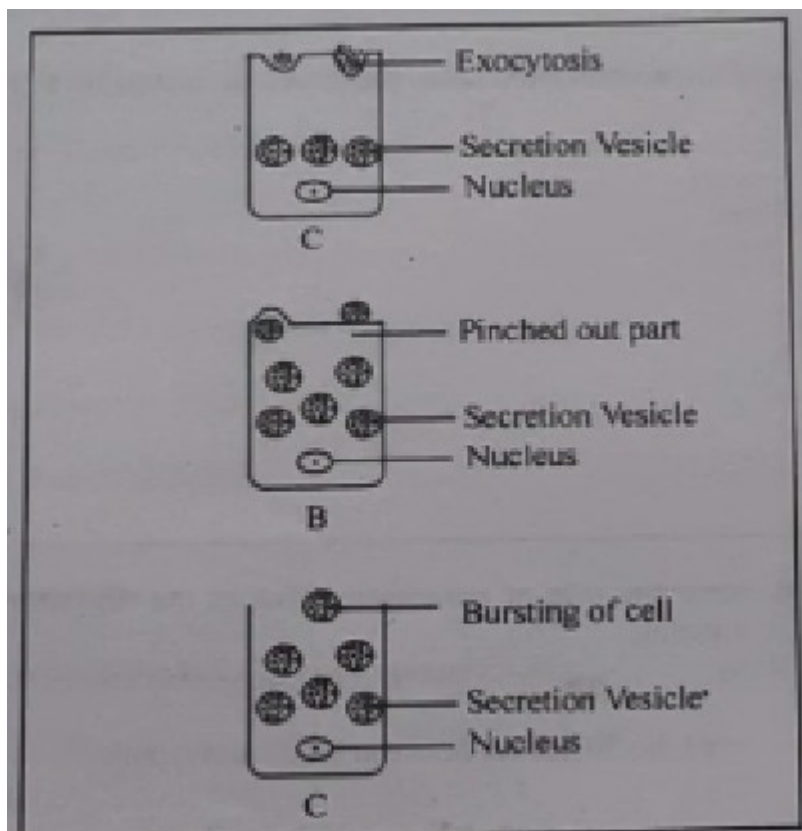
OR

Discuss the factors that affect Oxygen-dissociation curve.

11. Why is Absciscic acid also known as a stress hormone ?
12. What is meant by modification of root? What type of modification of root is found in the
a) Banyan tree b) Turnip c) Mangroove trees.
13. Give full form of ADH. Give its functions. Name the diseases that occur due to deficiency of this hormone.
14. Draw a labelled diagram of ultrastructure of NUCLEUS.
15. Give the graphic representation of CALVIN CYCLE

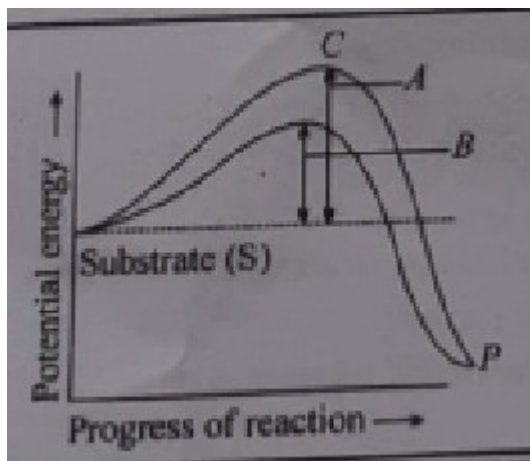
SECTION-C

16. Who proposed Five Kingdom System of classification Give the names of five Kingdoms in increasing order.
17. Identify the type of gland, on the basis of their mode of secretion.



18. What are the various stages of Meiotic Prophase-1 ? Write the chromosomal events during each stage.
 19. Give list of components of ETS.
- OR Give the schematic representation of Hatch and slack pathway.

20. Explain the Fluid Mosaic model of plasma membrane.
21. Draw a well labelled diagram of Nephron of human
22. How do potassium ion (K^+) regulate the opening and closing of stomata?
23. Study the following graph and answer the following questions :



24. Match items of Column-I with Column-II

Column-I

Column- II

- | | |
|----------------------|-----------------|
| i) Colour vision | a) Eight pairs |
| ii) Cranial nerves | b) Internal ear |
| iii) Cervical nerves | c) Sclerotic |
| iv) White of eye | d) Cones |
| v) Endolymph | e) Twelve pairs |

25. Differentiate between plant cell and animal cell. 3

SECTION-D

- 26.a) Discuss the factors that affect transpiration.

b). Look at the leaves of the same plant on the shady side and compare it with leaves on the sunny side Which of the side has darker green leaves ?

27. a) Name the types of joints between the following:

- Atlas and Axis
- Between Phalanges
- Between Cranial bones
- Between Pubic bones

28. a) Give the diagnostic characters of Phylum ARTHROPODA.

i) Vascular bundles are conjoint, scattered, surrounded by sclerenchymatous bundle sheath.

ii) Phloem parenchyma is absent.

What will you identify it as ?

c) The net gain of ATP molecules in glycolysis is

i) 8 ii) 2 iii) 4 iv) Zero