

2020

BOTANY – HONOURS – PRACTICAL (ONLINE ASSESSMENT)

VII Paper

Full marks – 100

Time – 2 Hours

The figures in the margin indicate full marks

GURUDAS COLLEGE: Date of Examination: 6th October, 2020

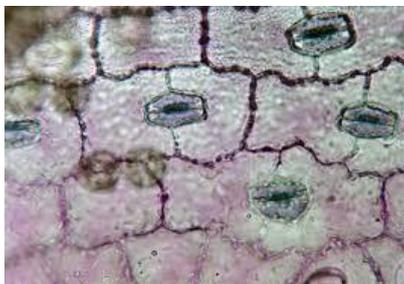
A. Answer all the questions.

30 x 2 = 60

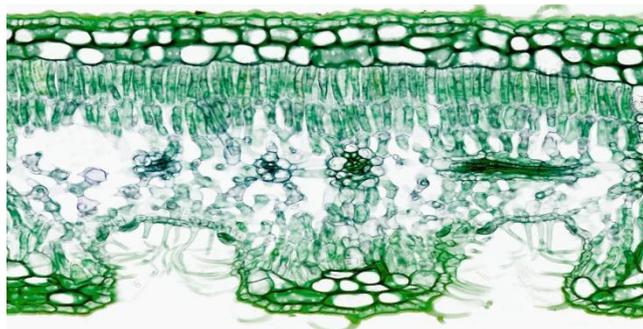
1. What is the difference between Molar and molal solution?
2. What is incipient plasmolysis? Why *Rhoeo* sp leaf is preferred for this experiment?
3. Why is the rate of evaporation always higher than the rate of transpiration?
4. Why is *Hydrilla* sp preferred in the photosynthesis experiment?
5. Define RQ. Mention the significance of RQ.
6. What is the role of KOH pellets in the experiment on aerobic respiration?
7. How much solute will be needed to make 0.5 Molar 100 ml solution of sucrose?
8. Mention two physical factors that can affect the rate of transpiration while performing the experiment.
9. Define Q_{10} . Write the formula for Q_{10} .
10. Between *Ficus* sp and *Hydrilla* sp leaf which one will show the higher rate of transpiration and why?
11. Where are the organic acids stored in plants and mostly in what form?

12. Write the name of the brick red compound that is formed during Fehling's test of reducing sugar. Give an example of a disaccharide reducing sugar.
13. Why glucose is called a reducing sugar? Name one confirmatory test for reducing sugar other than Fehling's test.
14. Mention the nature of precipitate that is formed during precipitation tests for detection of protein. Write the name of the general test for detection of protein.
15. What is the role of potassium permanganate in catalase assay experiment?
16. Protein reacts with which reagent to develop the coloured complex in the protein assay experiment following the Lowry's method. Where do peptide bonds form between amino acids?
17. Mention the reasons for using glycine in estimation of amino nitrogen experiment.
18. Fill in the blanks:
In catalase assay experiment, _____ H_2O_2 in the reaction mixture is titrated against standard _____ solution.
19. What do you mean by titrable acidity?
20. What is the end point of a) estimation of titrable acidity and b) catalase assay experiment?
21. Give one example of experiment from your biochemistry practical syllabus for each of a) redox reaction and b) acid base reaction.
22. Why do we use an alcohol gradient for the preparation of permanent slides for anatomy Practical? Name the source of Canada Balsam.
23. What is cystolith? Name a plant where cystolith is found.
24. What is anomalous secondary growth? Mention one prominent anatomical anomalous secondary growth character found in *Dracaena* sp stem.

25. What type of stomata can you see in the picture below? Name a plant where this type of stomata is found.



26. What type of anatomical adaptation is shown in the picture below? Name one adaptive anatomical feature prominent in the picture.



27. Write two histological character states of *Zingiber* sp starch grain.

28. Why is 1% H_2SO_4 solution preferred for the extraction of alkaloids?

29. Write one histological and one organoleptic characters of *Holarrhena antidysenterica* powder.

30. Write two chemical tests for the detection of tannins.

B. Class attendance	10
C. Class performance/ internal assessment	10
D. Laboratory notebook	20