GURUDAS COLLEGE

B. Sc. SEMESTER VI (Honours) Examination, 2021

Online Practical Examination, 2021

Subject: BOTA

Subject Category: Honours

CORE COURSE - 13

Course: - BOT-A-CC-13-P

Course Name: Plant Physiology

Date of Examination: 02/08/2021, 12noon

Time: 1 Hour 30 minutes FM: 30

Answer ***any three*** of the following

Q1. a) How much sucrose solution will you add from a 2M stock sucrose solution to make 15 ml of 0.45 M sucrose solution?

b) Why in the experiment of 'measurement of osmotic pressure of storage tissue by weighing method' the final weight of potato cylinders decrease than their initial weight after keeping dipped for certain time in some concentrations of sucrose solution?

c) Write in your own words the procedure of the experiment 'measurement of osmotic pressure of *Rhoeo* leaf' by plasmolytic method. 3+3+4

Q2. Write in your own words the procedure of determination of stomatal frequency and loss of water per stoma per hour. Suppose the loss of weight due to transpiration for 1 hour is 0.78gm and the total no. of stomata in the supplied *Basella* leaf is 868275.768. What would be the rate of transpiration? What are the requirements for the experiment 'determination of loss of water per stoma per hour'. 5+3+ 2

Q3. a) Define transpiration. If the total area of the petridish is 68.83cm^2 and the area of the Arum leaf is 77.37cm^2 . Suppose loss of water due to evaporation from the petri dish is 1gm in 1 hour and the initial weight of the transpiration set up is 165gm and the final weight is 164.19gm after 1 hour. What would be the rate of transpiration? What would be the ratio of transpiration and evaporation? 1+2+2

b) Write a brief note about the induction of amylase activity in germinating seeds. 5

Q4. What is imbibition? Suppose 10gms of each three types of seeds (starchy, fatty and proteinaceous) are kept dipped in water for one hour. Then after removing the surface water with the help of tissue paper their final weights were taken. What kind of change in their final weight you expect in each case? Compare their change of weight. Which type of seeds has highest imbibing power and why? 2+3+2+1+2

Q5. Define Q_{10}. Mention the requirements which are needed in the experiment of determination of Q_{10} . Briefly describe the procedure of the experiment. Mention the effect of temperature on the absorption of water by storage tissue. 2+3+4+1

Instructions for submission of answer scripts

1. Write the front page/top sheet as per instruction.
2. Scan the pages in sequence and make a single PDF file.
3. Rename file as per instruction.
4. Email the PDF file within the stipulated time to the following

Email ID:

bothons2020on@gmail.com

gdccug20@gmail.com

botasem4gdc@gmail.com