

# Bankim Sardar College

## B.Sc. Part III Examination

2020

### Botany Honours

#### Paper: VII (Practical)

Time: 2 Hours

Full Marks: 100

#### 1. Plant Physiology

(10 X 2 = 20)

- a. Give the requirements for the determination of loss of water per stoma per hour.
- b. Give the difference between transpiration and evaporation.
- c. Name a plant used to perform the experiments "Rate of photosynthesis under varying  $\text{HCO}_3^-$  concentration in an aquatic plant using bicarbonate and to find out the optimum and toxic concentration". Name the chemical used in this experiments as a source of bicarbonate.
- d. What do you mean by separation of plastidial pigments?
- e. Name the instrument use to measure the oxygen uptake by respiring tissue.
- f. What do you mean by R.Q.?
- g. What is osmotic pressure?
- h. Give the requirements for the measurement of osmotic pressure of *Rhoeo* leaf by plasmolytic method.
- i. What is  $Q_{10}$ ?
- j. What is imbibition?

#### 2. Plant Biochemistry (Qualitative)

(4 X 2 = 8)

- a. Discuss the calcium chloride test for the detection of oxalic acid.
- b. Discuss the Biuret test for the detection of protein.
- c. Name one reducing and non-reducing sugar.

d. Discuss any one experiments for the detection of calcium from plant ash sample.

**3. Plant Biochemistry (Quantitative)**

**(7 X 2 = 14)**

a. What is Benedict's reagent?

b. Give a requirement list for the experiments "Estimation of titratable acidity from lemon".

c. How the catalase enzyme works?

d. What is Folin phenol reagent?

e. What do you mean by colorimeter?

f. What is Lambert Beer's law?

g. What is titration?

**4. Plant Anatomy**

**(5 X 2 = 10)**

a. What are paracytic stomata? Give example.

b. Name the plants where raphides and cystolith are found.

c. Write any two adaptive anatomical features of xerophytic leaf.

d. Write anomalous secondary characters of *Bignonia* stem

e. Give characteristics features of laticiferous duct.

**5. Pharmacognosy**

**(4 X 2 = 8)**

a. Name the source of tannin and curcumin.

b. What is Fehling's solution?

c. Discuss Mayer's test for detection of alkaloids.

d. Discuss any one chemical test for tannin.

**6. Class attendance**

**(10)**

**7. Class performance/ internal assessment**

**(10)**

**8. Laboratory note book**

**(20)**