

U.G. 5th Semester Examination - 2021**BOTANY****Course Code : BBOTCCHC502****Course Title : Plant Physiology**

Full Marks : 30

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **ten** questions: 1×10=10
- Name one antitranspirant.
 - What is DPD?
 - Define imbibition.
 - What are aquaporins?
 - What do you mean by P-type ATPase?
 - Mention one role of Mg in plant.
 - Name the precursor molecule of IAA biosynthesis.
 - Name one auxin transport inhibitors.
 - What do you mean phyto-oncogenes?

- What are opines?
- What is Richmond-Lang effect?
- What is quiescent stage of seeds?
- Mention the role of GA in seed dormancy.
- What do you mean by photoperiodism?
- What are SLDPs?

2. Answer any **five** questions: 2×5=10
- What will happen if two 1M sucrose solutions of 0°C and 50°C are separated by a selectively permeable membrane?
 - How could you explain osmosis by free energy level?
 - What will happen if 0.1 M cyanide is added to cell suspension?
 - What are criteria of essentiality?
 - Diagrammatically represent different types of apoplastic phloem unloading.
 - Define symport and antiport.
 - Schematically represent cross-talk between auxin and ethylene in leaf abscission process.
 - Mention physiological roles of JA.

3. Answer any **two** questions: $5 \times 2 = 10$

a) What is transpiration pull? Briefly explain the process of carrier-mediated transport of ions across cell membrane. $2+3$

b) With a suitable diagram briefly explain the process of ABA signaling in stomatal guard cells. $3+2$

c) Write short notes on: $2 \frac{1}{2} \times 2 = 5$

i) Flowering stimulus,

ii) Phototropism
