**Salahaddin University – Erbil Subject: Plant Physiology**

**College of Agriculture Engineering Sciences Stage: 2nd**

**Department of plant protection Time: 2 h**

**Final Exam. 2nd Semester, 2021 – 2022**

***Q1:*** (24mark)

**A) Why does guttation take place at night?**

**B) Write (4) Importance of Osmosis.**

***Q2:*** (10 marks) Answer with true or false:

1. The roots in monocots are taproots.
2. **The Plant Kingdom includes the angiosperms (flowering plants), gymnosperms, ferns, and bryophytes.**
3. **The** [**thylakoid**](http://www2.estrellamountain.edu/faculty/farabee/BIOBK/BioBookglossT.html#thylakoids)**: is the structural unit of photosynthesis. Both photosynthetic prokaryotes and eukaryotes do not have these flattened sacs/vesicles containing photosynthetic chemicals.**
4. **Krebs cycle Takes place in the matrix of the mitochondria.**
5. **Young growing cells exhibit low rate of respiration as compared to mature cells.**

***Q3:*** (20 Mark)

**A) What do you know about photosynthetic pigments?**

**B) What does this equation mean? (Only one)**

1)  2) 

***Q4:*** (16Mark) Mention only (4) difference between:

**A)** Aerobic and anaerobic respiration.

**B)** C3 and C4 plants.

***Q5:*** (20Mark) Explain only (2) of the following with diagram.

**1. Glycolysis.**

**2. Water Movement in a Plant from Root Hair to Leaf.**

**3. Overview of the two steps in the photosynthesis process.**

***Q6:*** (10 marks) Fill the blanks with suitable words :

1. **The system in which dispersed phase and liquid dispersion medium attract each other is called ----------- systems.**
2. **------------- refers to the shrinking of the cytoplasm of a cell in response to diffusion of water out of the cell.**
3. **The Plant Kingdom includes the angiosperms (flowering plants), gymnosperms, -----, and bryophytes.**
4. **---------- is defined as the distance from peak to peak (or trough to trough).**
5. **The stages of Aerobic respiration are ---------, Krebs cycle or TCA Cycle and Electron Transport Chain.**

***Asst. Prof. Dr.***

***Iqbal Murad Dhahir***