Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name: Plant Physiology

Subject Code: 4SC02PPH1 **Branch: B.Sc. (Microbiology)**

Semester: 2 **Date: 29/04/2019** **Time: 02:30 To 05:30** **Marks: 70**

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 **Attempt the following questions:** **(14)**

a) Define Plasmolysis
b) Define Osmosis
c) Define Guttation
d) Define Active Transport
e) Name the essential requirements for Photosynthesis
f) Name the terminal electron acceptor in Photosynthesis
g) Chloroplast is a double membranous organelle. True/ False
h) Glyoxylate cycle occurs in peroxisomes. True/ false
i) Name any two micro elements essential for plant growth
j) Respiration in absence of oxygen is known as anaerobic respiration. True/ false
k) Lactic acid fermentation occurs in presence of oxygen. True false
l) Mitochondrion is a single membranous cell organelle. True/ False
m) Ascent of sap is based on capillary action. True/ false
n) Define Photosynthesis

Attempt any four questions from Q-2 to Q-8

Q-2 **Attempt all questions** **(14)**

a) Discuss the physical properties of water **(7)**
b) Discuss ion Exchange Theory for mineral uptake by plants. **(7)**

Q-3 **Attempt all questions** **(14)**

a) Discuss the theories for ascent of sap **(7)**
b) Define Transpiration. Explain various factors affecting transpiration **(7)**

Q-4 **Attempt all questions** **(14)**

a) Explain the ultrastructure of a Choloplast **(7)**
b) Explain Calvin Cycle **(7)**

Q-5 **Attempt all questions** **(14)**

a) Compare C3 plants and C4 plants **(7)**

	b)	Discuss the significance of Photorspiration	**(7)**
Q-6		**Attempt all questions**	**(14)**
	a)	Stomatal opening and closing is an important phenomenon in transpiration. Discuss	**(7)**
	b)	Explain CAM pathway. Also name the CAM plants	**(7)**
Q-7		**Attempt all questions**	**(14)**
	a)	Compare Mass flow hypothesis and Protoplasmic Streaming Theory	**(7)**
	b)	Write a note on macro elements essential for plant growth	**(7)**
Q-8		**Attempt all questions**	**(14)**
	a)	Discuss the photosynthetic apparatus and the pigments responsible for Photosynthesis	**(7)**
	b)	Draw a well labeled diagram of mitochondrion. Also discuss its significance as a respiratory centre.	**(7)**