DF-1538
M. Sc. Botany (Sem. III) Examination
March/April – 2016
BOT-301 : Botany
(Plant Physiology)

Time : 3 Hours] [Total Marks : 70
Instructions :
(1) Fill up strictly the details of signs on your answer book.
Name of the Examination : M. SC. BOTANY (SEM. III)
Name of the Subject : BOT-301 : BOTANY
Subject Code No. : 1 5 3 8 Section No. (1, 2,.....) Nil
Seat No. :

(2) Neat, correct and labeled diagrams will add to the value of
the answer.

(3) Figure to the right indicate full marks of the each question.

1. Attempt any two of the following: [18]
   a. Explain the movement of material in xylem and phloem in plants.
   b. Explain the concept of water potential in cells with suitable examples
   c. Explain the mechanism of active and passive transport of material
      across the membrane.

2. Attempt any two of the following: [18]
   a. Explain the importance of Kranz anatomy of leaf in C₄ plants.
   b. Explain the process of electron flow through the photosystems I and II
      adding a note on the significance of ‘Z’ shape and synthesis of ATP at
      different stages.
   c. Describe the Calvin cycle of photosynthesis

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3. Attempt any two of the following: [18]
   a. Explain the electron transport chain and generation of ATP
   b. Explain the internal and external factors affecting respiration in plants.
   c. Draw a neat flow chart of glycolytic pathway and discuss the regulation of the cycle in plants.

4. Attempt any two of the following: [16]
   a. Explain the response and adaptations of the plants to water deficit conditions.
   b. Explain the mode of action and commercial applications of cytokinins
   c. Write short notes on
      i. Florigen
      ii. Vernalin