**B.Sc. (Honours) Examination 2018**
**Semester - IV**
**Botany**
**Paper- BBA-41 (Allied)**
**(Plant Physiology, Biochemistry, Cell Biology, Genetics & Plant Breeding)**

**Time - Three Hours** **Full Marks – 40**

*Questions are of value as indicated in the margin.*

1. Answer in brief ***any eight*** questions: 1x8=8
   a) What are the two forms of phytochrome?
   b) Name the precursor of gibberellins.
   c) Why is Krebs' cycle known as TCA cycle?
   d) Name one micro nutrient and one macro nutrient for plants.
   e) Define back cross.
   f) What is hypertonic solution?
   g) What is euchromatin?
   h) Define geitonogamy.
   i) What is progeny test?
   j) Define distant hybridization.
2. What is transpiration? Explain potassium pump and proton transport concept of stomatal movement. Mention the role ABA in stomatal movement. 1+5+2=8

   OR

   What is osmotic pressure? Define diffusion pressure deficit and establish its relation with osmotic pressure and turgor pressure. What will be the value of diffusion pressure deficit in fully turgid cell? 2+5+1=8
3. Define respiration. Why is it called a catabolic process? Write down the reaction steps of EMP Pathway with enzymes involved there in. What is the net gain of ATP in EMP pathway? 1+1+5+1=8

   OR

   Briefly describe Watson and Crick's model of B-DNA with suitable diagram. 8
4. Describe the structure of a typical chromosome with suitable diagram. What is sat chromosome? 7+1=8

   OR

   What is selfing? Mention the methods of selfing used in wheat and maize plants. 2+6=8
5. Write short notes on ***any two*** of the following. 4 x 2=8
   a) Genetic code
   b) Nucleosome model
   c) Role of gibberellin in seed germination and elongation of internodes
   d) Monohybrid cross

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