

B.Sc.(Honours) Examination, 2017

Semester-IV

Botany

Course - BBA-41 (Allied)

(Plant Physiology, Biochemistry, Cell Biology, Genetics & Plant Breeding)

Time - 3 Hours

Full Marks – 40

Questions are of value as indicated in the margin.

1. Answer in brief **any eight** questions: 1x8=8
- a) Write down names of one natural and one synthetic auxin.
 - b) Name a protein with quaternary structure.
 - c) What do you mean by trace elements?
 - d) What is the net gain of ATP in oxidation of one molecule of hexose sugar in EMP pathway?
 - e) What is monohybrid cross?
 - f) Name one purine and one pyrimidine base.
 - g) Define test cross.
 - h) Mention the first component of electron transport chain.
 - i) Define autosome.
 - j) What is hybrid vigour?
2. What is water potential? What is its value for pure water? What will be its value when solute is added to the pure water? 2+2+4=8
- OR
- What do you mean by photoperiodism? Mention the role of phytochrome in flowering. Describe the effect of brief exposure of red light during dark and light periods on flowering in a short day plant. 1+4+3=8
3. Represent schematically the reactions of Krebs' cycle along with the enzymes. 8
- OR
- State the Law of Independent Assortment. How will you demonstrate it with the help of a dihybrid cross? 4+4=8
4. What are the different types of hybridization technique? Describe the process of emasculation. 3+5=8
- OR
- Describe in brief the process of translation. 8
5. Write short notes on **any two** of the following. 4x2=8
- a) Apical dominance.
 - b) Seven pairs of contrasting traits of pea plants selected by Mendel.
 - c) Stomatal opening in succulent plants.
 - d) Deficiency symptoms of one macronutrient and one micronutrient.
-