M.Sc. (Ag.) Examination, 2016
Semester-I
Genetics and Plant Breeding
Course No.: GPB-503
(Principles of Plant Breeding)

Time: Three Hours **Full Marks: 50**

Questions are of value as indicated in the margin

Answer *any four* questions of which Question No. 6 is compulsory

1. What do you mean by Plant Breeding? Discuss the various objectives of plant breeding? Comment on the multidisciplinary nature of plant breeding? 2+7+3=12

2. Briefly discuss the concept of centres of origin. In what way is this idea helpful in plant breeding? Enlist the Vavilovian centres of origin with one important example of each. 2+6+4=12

3. Explain the mechanisms of self-incompatibility and their biochemical basis. Differentiate gametophytic and sporophytic system of self-incompatibility. How can CGMS be utilized in plant breeding? 4+4+5=12

4. Compare mass selection and pureline selection. Describe the procedure of pedigree selection with flow chart. 6+6=12

5. What is the role of artificial and natural selection in bulk breeding method? Explain simple recurrent selection. 6+6=12

6. Write short notes (**any seven**) : 2×7==14
   a. Plant introduction
   b. Multiline method
   c. Heterosis
   d. Synthetic variety
   e. Composite variety
   f. Apomixis
   g. TGMS
   h. Plant ideotype
   i. Mutation breeding
   j. Protection of plant variety and farmers' rights

———