GV – 50

B.Sc. (Semester V) Examination, October/November 2016
BOTANY (Paper – X)
Genetics and Plant Breeding

Duration : 2 Hours Max. Marks : 80

Instructions : *i)* ***All*** *questions are* ***compulsory****, however internal choice is* ***available****.*
ii) Briefly answer sub-questions in question ***1*** *and question* ***2****.*
iii) Figures to the ***right*** *indicate maximum marks to the question/ sub-question.*
iv) Draw appropriate labeled diagrams ***wherever*** *necessary.*

1. Answer **any four** of the following : **16**

i) Explain the phenomenon of a) Incomplete dominance
b) Codominance

ii) What are the characteristics of quantitative inheritance ?

iii) Diagrammatically show the inheritance of kappa particles in *Paramecium.*

iv) Write a note on centres of origin of crop plants.

v) Write a note on sex limited characters.

vi) Define linkage. What are the different kinds of linkage ?

2. Answer **any four** of the following : **16**

i) Law of segregation is also known as the law of purity of gametes. Why ?

ii) Write a note on self incompatibility in plants.

iii) Explain the term interference.

iv) Discuss the inheritance of CO_2 sensitivity in *Drosophila.*

v) Write a note on genetics of pathogenecity.

vi) What is the importance of seed certification ?

P.T.O.

3. A) With a suitable example explain duplicate factors with cumulative effect. 6

OR

A) Explain how complementary genes alter the typical Mendelian ratio. 6

B) Briefly explain the inheritance of blood groups in man. 6

4. A) Write a note on chromosome mapping. 6

OR

A) Compare the phenomenon of linkage with independent assortment. 6

B) Explain the inheritance of quantitative traits. 6

5. A) Describe sex determination in man. 6

OR

A) Describe the mechanism of inheritance of sex linked genes. 6

B) With a suitable example, explain maternal inheritance. 6

6. A) What are the objectives of plant breeding ? 6

OR

A) Discuss the role of ICAR in crop improvement. 6

B) Write a note on plant breeder's rights. 6

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