KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Agriculture – 2010 Admission III[rd] Semester

Final Examination – January / February 2012

Title : Pbgn. 2103 **Marks : 80**

Course : Principles of Plant Breeding (2+1) **Time : 3 Hours**

I.(a) Fill up the blanks (10 X 1 = 10)

1. First artificial pollination was done in .....
2. The chromosome doubling action of colchicine was first described by .....
3. The first hybrid variety of cotton was.....

(b) Define the following

1. Herkogamy
2. Pseudo heterosis
3. Emasculation

(c) Match the following

1. Rimpau	-	a. *Datura*
2. Koelreuter	-	b. Dwarf gene
3. Globe mutant	-	c. Triticale
4. Norin 10	-	d. Tobacco
	-	e. Rice
	-	f. Potato

II. Write short notes on <u>ANY TEN</u> (10 X 3 = 30)

1. Distinguish between apogamy and apospory.
2. Which is the selection process practiced by the farmers? What are the merits and demerits of it?
3. What do you mean by trisomics? Explain the different types.
4. Explain the famous U's triangle.
5. Comment on Fairchild's mule.
6. Briefly describe the noblization of sugarcane.
7. Differentiate between Generative nucleus and vegetative nucleus
8. Describe the method of hot water emasculation.
9. What are the informations recorded on the label during hybridization?
10. What are the applications of a back cross breeding programme?
11. What are the different effects of mutation?
12. Explain the Hallet's and Rimpau's method of mass selection.

(P.T.O)

III. Write short essays on ANY SIX of the following **(6 X 5 = 30)**

1. What are the causes of heterosis and their hypothesis?
2. Give an account on the merits and demerits of Hybrids.
3. Explain the evolution of bread wheat with the help of schematic representation.
4. Which are the Plant introduction agencies functioning in our country? What are their functions?
5. What is cytoplasmic-genic male sterility? Describe its utilization and limitations in crop breeding.
6. Compare and contrast between Pedigree method and bulk method.
7. Give a short account on the prerequisites of hybridization
8. Write short note on gamma garden?

IV. Write essay on ANY ONE **(1 X 10 = 10)**

1. What do you mean by induction of mutation? Explain the steps involved in artificial induction of mutation and handling of generations.
2. Describe the different types of self incompatability with suitable examples and its mechanism.