Semester	: **III (New)**	**Term**	: **I**	**Academic Year**	: **2013-14**
Course No.	: BOT 233	**Title**	: **Principles of Plant Breeding**		
Credits	: 3(2+1)				
Day & Date	: Tuesday, 22.10.2013	**Time**	: 9.00 to 12.00	**Total Marks**	: **80**

Note :
1. Solve **ANY EIGHT** questions from **SECTION "A".**
2. All questions from **SECTION "B"** are compulsory.
3. All questions carry equal marks.
4. Draw neat diagrams wherever necessary.

SECTION "A"

Q.1 Define hybridization. Describe aims, objectives and types of hybridization.

Q.2 Describe in detail procedure of pedigree method.

Q.3 Define male sterility, types and their utilization in crop improvement.

Q.4 Define heterosis, types, hypothesis and utilization in crop improvement.

Q.5 Define mutation breeding. Describe in detail its application in crop improvement.

Q.6 Define polyploids and allopolyploids. Explain application and utilization of allopolyploidy in crop improvement.

Q.7 Define wide hybridization and role of wide hybridization in crop improvemt.

Q.8 Write short notes on the followings.

1) Clonal selection 2) Recurrent selection

Q.9 Differentiate between the following.

1) Composite varieties and synthetic varieties.

2) Pure line and inbred.

Q.10 Define plant breeding. Describe aim, chief and general objectives of plant breeding.

SECTION "B"

Q.11 Define the following terms.

1) Mutagens 2) Acclimatisation 3) Back cross

4) Inbreeding depression 5) Incompatibility 6) Cleistogamy

7) Clone 8) Often cross pollinated species

Q.12 Fill in the blanks.

1) _____ may be defined as the substitution for sexual reproduction of an asexual process which does not involve any nuclear fussion.

2) Gametophytic incompatibility was first reported by _____ and _____(1925) in *Nicotiana sanderae*.

3) In 1903, _____ proposed the pure line theory, that provide the genetic base for individual plant selection.

4) A noteworthy development resulted from the studies of _____ on inbreeding in maize.

5) Triticale is the cross between wheat x_____.

6) This is the dose of a mutagen on which 50 per cent of the mutagen treated individual die _____.

7) In sorghum, bajra and maize, _____ male sterility is used for hybrid seed production.

8) An allopolyploid having two copies of each of the two or more different genomes present is called_____.

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