**Question Bank-4**

**Course- B.Sc. Biotechnology 6th Semester, B.Sc. CBZ 6th Semester**

**Subject: Genetics & Plant Breeding**

**Topic: Heterosis, Inbreeding Depression, Quantitative Inheritance, Polyploidy**

1. **Multiple Choice Questions:**
2. During ploidy there is a change in the  
   a) Number of chromosomes

b) Arrangement of genes

c) Number of genes

d) Arrangement of chromosomes

1. The term genome refers to the
2. Haploid set of chromosomes  
   b) Diploid set of chromosomes  
   c) Triploid set of chromosomes  
   d) Tetraploid set of chromosomes
3. The addition or deletion of one or more chromosomes in a set is referred as
4. Aneuploidy
5. Deletion
6. Inversion
7. Translocation
8. The chromosomal condition of 2n-2 is called
9. Tetrasomic
10. Polysomic
11. Nullisomic
12. Monosomy
13. Inbreeding increases the frequency of
14. Homozygous
15. Heterozygous
16. Genetic diversity
17. Genetic linkage
18. Selection of homozygous plants is
19. Mass selection
20. Pureline selection
21. Both
22. None
23. Heterosis lost due to continuous inbreeding is known as   
    a) Hybrid vigor  
    b) inbreeding depression  
    c) Outbreeding depression
24. None
25. Heterosis over the better parent is called

a) Relative Heterosis

1. Standard Heterosis
2. Pseudoheterosis
3. Heterobeltiosis
4. Sterility is most pronounced in the F1 generation following
5. Intervarietal hybridization
6. Intravarietal hybridization
7. Intraspecific hybridization
8. Interspecific hybridization
9. Hybrid seeds can be produced through open pollination with the use of
10. Inbreds
11. Clones
12. Pure lines
13. Male sterile lines
14. The term heterosis was coined by…………….
15. The term luxuriance was coined by…………….
16. **Short Questions**
17. What is luxuriance?
18. What is the role of epistasis in heterosis?
19. What are main effects of heterosis?
20. What is hybrid vigour?
21. Define polygenes
22. How can you induce polyploidy in plants?
23. Define endoreplication.
24. Define somatic doubling.
25. Differentiate between Auto polyploidy and allo polyploidy.
26. Differentiate between relative and standard heterosis.
27. Differentiate between mutational and balanced heterosis.
28. **Long Questions**
29. What are main features of heterosis?
30. Explain dominance theory of heterosis.
31. Comment on degree of inbreeding depression.
32. Discuss the characteristics of qualitative inheritance.
33. Discuss the role of polyploidy in crop improvement.