

XII BIO ASSIGNMENT ANSWER KEY

1. The alleles of two genes are segregating independently
2. The outer integument of the ovule develops into tegmen
3. In human blood group there are four possible phenotypes A, B, AB & O. These blood groupings are controlled by gene I. There are three, instead of normally two, alleles of this gene namely I^A , I^B & i which control these four blood groups. Hence it is an example of multiple allelism.
4. (i) All the physical and chemical factors that induce mutation are called mutagens. UV radiation and X-rays are physical mutagens.
(ii) Mutation arising due to change in a single base pair of DNA is called point mutation.
(iii) Insertion and deletion of three bases or multiples of three bases cause frame-shift mutation because the reading frame remains unaltered from that point onwards
5. A) is the pericarp, which is the fruit wall fused with the seed coat; (B) is the scutellum, a modified cotyledon that absorbs and transfers nutrients; (C) is the embryonal axis, which consists of the plumule (future shoot) and the radicle (future root); and (D) is the perisperm
6. Continued **self-pollination** decreases the vigour and vitality of a particular race. Thus, **flowering plants** have **developed** many devices to **discourage self-pollination** and to encourage cross-pollination.
7. Any two reasons
8. From NCERT