

## Questions on some topics of CC-10

### Q1. Short question type:-

- a) What are the laws of Mendelian Inheritance?
- b) What is linkage?
- c) Differentiate between complete and incomplete linkage.
- d) What are multiple alleles?
- e) What is lethal allele?
- f) What is silent mutation?
- g) What is point mutation?
- h) Differentiate between transition and transversion.
- i) What is nonsense mutation?
- j) What is frameshift mutation?
- k) Differentiate between induced and spontaneous mutation.
- l) What is meant by ISH and FISH?
- m) What are split genes?
- n) What are overlapping genes?
- o) What are transposons?
- p) What are tandem repetitive sequences?

Q2. a) Explain the inheritance pattern of sex-influenced traits with proper example.

- b) Write a short note on multiple alleles citing example.
- c) Give an account of the maternal inheritance with suitable example.
- d) Explain the inheritance pattern of genes in codominance phenomenon.
- e) What is Crossing over? Illustrate the cytological basis of crossing over as observed in McClintok & Creighton experiment.
- f) Describe the Holliday Model of molecular mechanism of crossing over with

diagram. What is crossing over? Write role of RecA in crossing over.

g) What is tautomerization? What are thymine dimers? Give an illustrated repair mechanism for this mutation. [Also may be: Mutations caused by ionizing radiation- thymine dimers & cytosine hydrate]

h) Give an account of the mutational changes that are caused by the following

mutagens:- 1. Base analogs            2. Hydroxylating agent  
                  3. Alkylating agents.    4. Deaminating agent.

i) Write a short note on the Ac-Ds elements.

j) Explain the ABCE model of floral organ identity genes.