

AS-2051
GENETICS AND EVOLUTION -II
SEMESTER -II

TIME :3 HOURS

M:M: 40
715/MH

Note: Candidates are required to attempt two questions each from section A and B and the entire section C.

Section – A

1. Define the term incomplete dominance? Discuss its mechanism based on a relevant example. (6)
2. What do you mean by reductional cell division? Explain the process of reductional cell division and comment on its significance. (6)
3. Define the term nucleosome. Discuss the details of nucleosome model of chromatin assembly. (6)
4. What is linkage? Discuss the features, types and significance of linkage. (6)

Section – B

5. Define translation. Discuss the mechanism of translation in eukaryotes. (6)
6. Explain the mutation theory of evolution. (6)
7. Write concise notes on the following:
a. Mutations. b. Transposable genetic elements. (3+3)
8. Discuss the Physiology and Biochemistry and Genetics and Cytology based evidences of organic evolution. (6)

Section – C

9. Answers to the following questions briefly.
 - a. Define law of segregation.
 - b. What do you mean by B DNA and Z DNA?
 - c. List the salient features of genetic code.
 - d. Differentiate between dominant and recessive epistasis.
 - e. Define theory of Inheritance of acquired characters.
 - f. What do you mean by alpha helix and beta pleated sheets?
 - g. Elaborate the term lac operon.
 - h. What are petrified fossils? (2×8 = 16)