



M.Sc. II Semester Degree Examination, Sept./Oct. - 2024

BOTANY

DSC - 6 : Cell Biology

(NEP)

Time : 3 Hours

Maximum Marks : 70

- Note :** (i) Answer **any five** of the following questions.
(ii) Question No. **1** is **Compulsory**.

1. (a) Differentiate euchromatin and heterochromatin material. **8**
(b) Discuss dosage compensation and X-chromosome inactivation. **6**
2. Write a short note on :
(a) Non-disjunction and anaphase lag of chromosomes **6**
(b) Sister chromatic exchanges and its significance **8**
3. Explain in detail about the cytogenetic mapping. **14**
4. Describe the ultrastructure and functions of microtubules and microfilaments. **14**
5. Describe the cell cycle regulating genes. **14**
6. Write a short note on :
(a) In-sites hybridization of chromosome mapping **6**
(b) Autophagy **8**
7. Write a short note on :
(a) Polytene chromosome **6**
(b) Lysosomes and vamoles **8**
8. Give a brief account on :
(a) Totipotency of stem cells **8**
(b) Cadherins, selections and adhesins **6**

