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Daffodil International University

Department of Genetic Engineering and Biotechnology
Faculty of Health and Life Sciences
B. Sc. (Hons.) in Genetic Engineering and Biotechnology
Final Examination, Summer 2026

Course Code: 0512-2103 **Course Title: Cytology**

Level and Term: L-2, T-1 **Section: 252 (A+B)** **Course Teacher Initials: HKC**

Time: 2 hours **Total Marks: 40**

Answer the following questions: **Marks**

1. (a) Define plasma membrane. How would you describe marigold plants cellular outer layer functions? [CLO1, PLO2, C1] 4
   (b) Illustrate the molecular functions of the cellular post office. [CLO1, PLO2, C2] 4
2. (a) How would you elaborate the balanced chromosomal re-arrangements? [CLO1, PLO2, C1] 4
   (b) Simplify the cancer development cycle with the BFB model. [CLO1, PLO2, C4] 4
3. (a) Construct an illustration of the chromosomal polyploidy. [CLO1, PLO2, C3] 4
   (b) Briefly explain the effects of chromosomal duplication. [CLO1, PLO2, C2] 4
4. (a) What is cell division? Briefly discuss the mitosis cell division process. [CLO1, PLO2, C1] 4
   (b) Explain the meiosis cell division with a proper figure. [CLO1, PLO2, C2] 4
5. (a) Recommend the immunological and molecular techniques for the cell biology study. [CLO1, PLO2, C5] 4
   (b) Discuss the limitations of sc-sequencing. [CLO1, PLO2, C6] 4