

**FACULTY OF SCIENCE**

**B.Sc. II-Semester (CBCS) Examination, May / June 2018**

**Subject : Genetics**

**Paper – II : Cytogenetics**

**Time : 3 Hours**

**Max. Marks: 80**

**PART – A (5 x 4 = 20 Marks)  
(Short Answer Type)**

**Note : Answer any FIVE of the following questions.**

- 1 Role of p53 in cell cycle
- 2 Mitosis
- 3 Heterochromatin
- 4 Translocation and its genetic consequence
- 5 Autocrine cell signaling
- 6 G-protein coupled receptors
- 7 Necrosis
- 8 Intrinsic factors in apoptosis

**PART – B (4 x 15 = 60 Marks)  
(Essay Answer Type)**

**Note: Answer all the questions.**

- 9 (a) Discuss about phases of eukaryotic cell cycle.  
**OR**  
(b) Define meiosis. Explain in detail chromosome segregation during meiosis.
- 10 (a) Explain different types of specialized chromosomes.  
**OR**  
(b) What is polyploidy? Discuss in detail auto-polyploidy and allo-polyploidy with examples.
- 11 (a) Write an account on extracellular cell signaling.  
**OR**  
(b) Describe the role of secondary messengers in cell communication and signalling.
- 12 (a) Explain the mechanism of senescence in detail.  
**OR**  
(b) Discuss how cancer is a negative regulator of cell cycle.

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