



XI-SCI : Biology  
Cell Division,

DATE:

TIME: 1 hour 30  
minutes

MARKS: 25

SEAT NO:

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**Note:-**

1. All Questions are compulsory.
2. Numbers on the right indicate full marks.

**Section A**

**Q.1 Select and write the correct answer.**

**(4)**

1. Reduction of chromosome number from  $2n$  to  $n$  takes place during  
A) Metaphase I    B) Anaphase I  
C) Telophase I    D) Telophase II
2. A bivalent consists of  
A) Two chromatids and one centromere    B) Four chromatids and two centromeres  
C) Two chromatids and two centromeres    D) Four chromatids and four centromeres
3. Amitosis is the usual process of cell division in  
A) meristematic cells    B) prokaryotic cells  
C) eukaryotic cells    D) spore mother cells
4. Histone proteins are synthesised during  
A) G1-phase    B) S-phase  
C) G2-phase    D) Interphase

**Q.2 Answer the following.**

**(3)**

1. Name the three types of cell division.
2. Name the proteins which help in cell cycle.
3. Define  $G_2$  phase.

**Section B**

**Attempt any Four**

- Q.3 Is the meiosis responsible for evolution? Justify your answer. **(2)**
- Q.4 Is a given figure correct? Why? **(2)**
- Q.5 While observing a slide, student observed many cells with nuclei. But some of the nuclei were bigger as compared to others but their nuclear membrane was not so clear. Teacher inferred it as one of the phase in the cell division. Which phase may be inferred by teacher? **(2)**
- Q.6 What is crossing over? Give its significance. **(2)**
- Q.7 Which processes occur during interphase? **(2)**

Q.8 Match the following column-A with column-B. (2)

**Column-A (Phases)**

- a. Leptotene
- b. Zygotene
- c. Pachytene
- d. Diplotene

**Column-B (Their events)**

- 1. Crossing over
- 2. Desynapsis
- 3. Synapsis
- 4. Bouquet stage

**Section C**  
**Attempt any Two**

Q.9 Write the significance of mitosis. (3)

Q.10 How do your wounds heal? (3)

Q.11 Describe the types of fibres that form spindle apparatus. (3)

**Section D**  
**Attempt any One**

Q.12 What is meiosis? (4)

Q.13 Distinguish between mitosis and meiosis. What is difference between mitosis and meiosis? (4)