



- \* Amitosis                      \* Mitosis                      \* Animal cell division    \* Meiosis
- (xx) Total aggregate of gene in a population is called as:
- \* Chromosome              \* Gene pool              \* Multiple Gene              \* Chromonema

**Time: 1 hour 40 minutes**

**Marks: 20**

**SECTION 'B' (SHORT-ANSWER QUESTIONS)**

**Marks: 12**

**Q2.** Attempt any Four-part questions. Each question carries one mark. Give answer not more than two lines.

- (i) Name the pyrimidine bases in DNA structure
- (ii) Define Apomixis and Parthenocarpy?
- (iii) Define any one of the followings: (a) Autosome                      (b) Sex chromosomes
- (iv) Name the types of RNA involved in protein biosynthesis.
- (v) What happens when a cell is placed in a hypotonic solution?
- (vi) Write number of chromosomes in Pea (*Pisum sativum*) and Sugarcane (*Saccharum officinarum*)?
- (vii) Define meristematic tissues and name its types. OR How young stem gives mechanical support to plant body

**Q3.** Attempt any Four-part questions. Each question carries Two marks. Give answer not more than five lines.

- (i) What is the phenotypic ratio if cross between color blind male and carrier female, with the help of checker board.
- (ii) Describe the changes occurs in Prophase of Mitosis.
- (iii) Describe any one of the followings:  
(a) Pollination                      (b) Double fertilization
- (iv) Name only the Biotic components of an ecosystem.
- (v) How is Photonasty different from Phototropism?
- (vi) State the law of Segregation.
- (vii) Define Nastic movement.
- (viii) Discuss Abiotic components of desert ecosystem

**SECTION 'C' (DETAILED-ANSWER QUESTIONS)**

**Max Marks: 08**

**Note:** Attempt any **Two** questions from this section. All questions carry equal marks. (Diagram is not required)

**Q4.** Explain the climatic factors of an ecosystem. **OR** Describe osmoregulation in flowering plants

**Q5.** Define Meiosis. Explain the various stages of Prophase -I of meiosis.

**Q6.** Define "Law of Independent assortment" and explain with checkerboard.

**Q7.** Explain ultrastructure of Chromosomes.

**OR** what do you mean by sex determination? Discuss linked inheritance with reference to colour blindness.