

**2 0 1 8**

( Pre-CBCS )

( 5th Semester )

**ZOOLOGY**

FIFTH PAPER

**( Cell Biology )**

*Full Marks : 55*

*Time : 2½ hours*

**( PART : A—OBJECTIVE )**

( Marks : 20 )

*The figures in the margin indicate full marks for the questions*

SECTION—A

( Marks : 5 )

Tick (✓) the correct answer in the brackets provided :

1×5=5

**1.** Nucleolus is absent in

(a) plant cells ( )

(b) animal cells ( )

(c) prokaryotic cells ( )

(d) eukaryotic cells ( )

- 2.** Pinocytosis is the process of engulfing
- (a) semisolid particles ( )
  - (b) fluid particles ( )
  - (c) largesize sold particles ( )
  - (d) smallsize solid particles ( )
- 3.** The membranes of mitochondria are made of
- (a) glycolipid layers ( )
  - (b) phospholipid layers ( )
  - (c) cholesterol layers ( )
  - (d) sphingolipid layers ( )
- 4.** A region of repetitive nucleotide sequences at each end of the chromosome is called
- (a) chromomere ( )
  - (b) chromonemata ( )
  - (c) telomere ( )
  - (d) chiasmata ( )
- 5.** Sarcomas are tumours in
- (a) connective tissue ( )
  - (b) germ cells ( )
  - (c) embryonic tissue ( )
  - (d) epithelial cells ( )

SECTION—B

( Marks : 15 )

Write short notes on the following in not more than 5–8 sentences each :

3×5=15

1. Cell theory
2. Lysosome
3. Intermediate filaments
4. Cell junctions
5. Crossing-over

( PART : B—DESCRIPTIVE )

( Marks : 35 )

*The figures in the margin indicate full marks for the questions*

1. Give a brief account on tenets and limitations of cell theory. 7

**OR**

Discuss the active transport across the membrane with examples. 7

2. Write notes on endocytosis and phagocytosis.  $3\frac{1}{2}+3\frac{1}{2}=7$

**OR**

Describe the structure and functions of rough endoplasmic reticulum. 7

3. Explain the structure of microtubules. 7

**OR**

Describe the structure and functions of mitochondria.. 7

4. Define karyotype and discuss the concepts, components and importance of karyotyping.  $1+6=7$

**OR**

Write notes on :  $3\frac{1}{2}+3\frac{1}{2}=7$

(a) Desmosomes

(b) Adhesion

5. Explain in detail the regulation of cell cycle through cyclin CDK complexes. 7

**OR**

Define carcinogens. Write a note on the different types of carcinogens. 7

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