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( 5th Semester )

ZOOLOGY

Paper : ZL-V

( Cell Biology )

Full Marks : 55

Time : 2½ hours

( PART : B—DESCRIPTIVE )

( Marks : 35 )

*The questions are of equal value*

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

*Or*

Discuss the facilitated and active transport of molecules across cell membrane.

2. Describe the structure and function of rough endoplasmic reticulum.

*Or*

Write short notes on endocytosis and phagocytosis with suitable diagrams.

3. Describe the structure and function of mitochondria.

*Or*

Discuss the structure of microtubule.

4. Describe briefly cell cycle checkpoints and control points. How is cell cycle regulated by cyclin-CDK complexes?

*Or*

What is cancer? Discuss different agents that can cause cancer.

5. Describe different components and functions of extracellular matrix.

*Or*

What is karyotyping? Discuss the concept, components and importance of karyotyping.

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Subject Code : **V**/ZOO (v)

Booklet No. **A**

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Date Stamp .....

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**To be filled in by the Candidate**

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DEGREE 5th Semester  
(Arts / Science / Commerce /  
..... ) Exam., **2016**  
Subject .....  
Paper .....

**To be filled in by the Candidate**  
DEGREE 5th Semester  
(Arts / Science / Commerce /  
..... ) Exam., **2016**  
Roll No. ....  
Regn. No. ....  
Subject .....  
Paper .....  
Descriptive Type  
Booklet No. B .....

**INSTRUCTIONS TO CANDIDATES**

- 1. The Booklet No. of this script should be quoted in the answer script meant for descriptive type questions and vice versa.
- 2. This paper should be ANSWERED FIRST and submitted within 45 minutes of the commencement of the Examination.
- 3. While answering the questions of this booklet, any cutting, erasing, overwriting or furnishing more than one answer is prohibited. Any rough work, if required, should be done only on the main Answer Book. Instructions given in each question should be followed for answering that question only.

Signature of  
Scrutiniser(s)

Signature of  
Examiner(s)

Signature of  
Invigilator(s)

**V/zoo (v)**

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( 5th Semester )

**ZOOLOGY**

Paper : ZL-V

**( Cell Biology )**

( PART : A—OBJECTIVE )

( Marks : 20 )

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

SECTION—A

( Marks : 5 )

Put a Tick (✓) mark against the correct answer in the brackets provided : 1×5=5

**1.** Nucleolus is absent in

- (a) all plant cells ( )
- (b) all animal cells ( )
- (c) prokaryotic cells ( )
- (d) eukaryotic cells ( )

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( 2 )

2. The process of ingestion of large-sized solid substances by the cell is called

(a) pinocytosis ( )

(b) phagocytosis ( )

(c) receptor-mediated endocytosis ( )

(d) exocytosis ( )

3. Microtubule is made up of \_\_\_\_\_ protofilaments.

(a) 10 ( )

(b) 11 ( )

(c) 12 ( )

(d) 13 ( )

4. The six subunits of protein in the channels of gap junction are called

(a) occludins ( )

(b) connexons ( )

(c) linkers ( )

(d) placoglobins ( )

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( 3 )

5. Crossing-over occurs between

- (a) non-sister chromatids ( )
- (b) sister chromatids ( )
- (c) non-homologous chromosomes ( )
- (d) metaphase chromosomes ( )

( 4 )

SECTION—B

( Marks : 15 )

Write short notes on the following in not more than  
5 to 8 sentences each : 3×5=15

1. Prokaryotic cells

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( 5 )

**2. Peroxisomes**

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( 6 )

**3. Intermediate filaments**

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( 7 )

**4. Nucleolus**

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( 8 )

5. Prophase-I of meiosis

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