

2011

ZOOLOGY

( Major )

Paper : 3.1

Time : 3 hours

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

Candidates **eligible** for Internal Assessment shall  
answer from PART—I only ( Marks : 90 )

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Candidates **not eligible** for Internal Assessment shall  
answer both from PART—I and PART—II ( Marks : 100 )

PART—I

( Marks : 90 )

1. Write a note on (any one) : 20
- (a) Intranuclear organisation of the cell
  - (b) Ultrastructure of a Golgi apparatus and its functional significance
  - (c) Structure and dynamics of micro-tubules and microfilaments

2. (a) Describe the nature and classification of enzymes. 10
- (b) Write a note on the mechanism of enzyme kinetics. 10
- Or*
- (c) Describe the classification and biological significance of protein. 10
- (d) Write a note on ornithine cycle. 10

3. Write briefly on (any two) :  $10 \times 2 = 20$

- (a) Regulation of gene expression
- (b) Human karyotypes
- (c) Recombination mechanism in virus

4. Describe the electron transfer chain through the respiratory complexes present in mitochondria. 15

*Or*

Give an account on the theories of oxidative phosphorylation.

5. Write notes on (any two) :  $7\frac{1}{2} \times 2 = 15$

- (a) Cell mediated immune response
- (b) Immune deficiency
- (c) Vaccination

( 3 )

PART—II

( Marks : 10 )

( In lieu of Internal Assessment )

6. Describe the mitotic apparatus and its significance. 10

Or

Write short notes on (any two) : 5×2=10

- (a) Acquired immunity
- (b) Significance of free energy
- (c) Sexuality in bacteria
- (d) 1st law of thermodynamics

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