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T'De-III 2009<sup>3</sup> (3) ZOO M 1

2009

ZOOLOGY

( Major )

Paper : 3.1

Full Marks : 100

Time : 3 hours

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

1. Answer either (a) and (b) or (c) and (d) :
- (a) Describe the ultra-structure of Golgi bodies with suitable diagrams. Mention the functions of Golgi bodies. 10+5=15
- (b) Describe the role of chloroplast in cellular energy transaction. 5
- (c) Give an illustrative description on mitotic apparatus. Mention its role in cell division. 10+5=15
- (d) Differentiate between acid stain and basic stain. 5

9/1-1200/664

( Turn Over )

( 2 )

2. (a) What is ureotelic animal? Describe the ornithine cycle with proper steps.

2+13=15

Or

Describe the  $\beta$ -oxidation of fatty acid. 15

- (b) Write notes on any *two* of the following :

5×2=10

- (i) Importance of free energy in living system
- (ii) Glycogen as a source of energy
- (iii) pH as a chemical basis of biology

3. What do you mean by genome? Give a descriptive account of human genome project. Mention its significance.

5+15+5=25

Or

Write on the following :

12½×2=25

- (a) Genetic code and its decoding
- (b) Mechanism of gene expression

4. Describe the electron transport system in mitochondria.

15

Or

Explain different theories of oxidative phosphorylation.

( 3 )

5. Write notes on any *two* of the following :

$7\frac{1}{2} \times 2 = 15$

- (a) Antigen-antibody interaction
- (b) Immune deficiency and its effects on body system
- (c) Cell-mediated immune system

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