

Total No. of Printed Pages—5

**2 SEM TDC ZOO M 1 (N/O)**

**2015**

( May )

**ZOOLOGY**

( Major )

Course : 201

Time : 2 hours

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

( New Course )

( **BIOCHEMISTRY** )

Full Marks : 48

Pass Marks : 14

1. (a) Fill up the blanks : 1×5=5

(i) The monosaccharide found in the RNA is —.

(ii) The lipid that changes to vitamin D on activation by UV light is —.

(iii) The fraction of an enzyme that works only in the presence of a cofactor or coenzyme is —.

(iv) Beriberi is caused due to the deficiency of —.

(v) The minimum amount of energy needed to initiate a chemical reaction is known as —.

(b) Write short notes on any *two* of the following : 4×2=8

(i) Genetic code

(ii) Oxidative phosphorylation

(iii) pH

(iv) Coenzymes

2. What is thermodynamics? Explain the first and second laws of thermodynamics. 1+6=7

Or

What is buffer? Describe briefly about the biological buffer system in human body and its significance. 1+4+2=7

3. Define carbohydrate. Give a brief classification of carbohydrates with examples. 1+6=7

Or

Why is amino acid called building blocks of protein? Write about the major classes of amino acids with examples. 1+6=7

4. What are the water-soluble vitamins? Write briefly about the sources and functions of vitamin B. 1+6=7

Or

What is enzyme? Give in detail about the IUB classification of enzymes. 1+6=7

5. Prove that DNA as genetic material. 7

Or

Write about the molecular structure of DNA.

6. Write the different steps of  $\beta$ -oxidation of fatty acids and the fate of the end product of  $\beta$ -oxidation. 7

Or

Explain the different steps of glycolysis. Where does this process occur in a cell?

6+1=7



( Old Course )

( ANIMAL DIVERSITY—II AND COMPARATIVE ANATOMY )

Full Marks : 48

Pass Marks : 19

SECTION—A

[ Animal Diversity—II (Chordata) ]

( Marks : 36 )

Answer Question No. 1 and any **three** from the rest

1. (a) Fill up the blanks : 1×4=4

(i) Petromyzon belongs to the order \_\_\_\_\_.

(ii) Sphenodon is generally referred as \_\_\_\_\_.

(iii) The living flightless birds belongs to the superorder \_\_\_\_\_.

(iv) The number of cranial nerves in mammals is \_\_\_\_\_.

(b) Write short notes on the following : 4+4=8

(i) Dentition in mammals

(ii) General characters of Cephalo-chordata

2. Write about the systematic position and affinities of *herdmania*. 3+5=8
3. What is parental care? Write briefly about the parental care in Amphibia with example. 1+7=8
4. Write briefly about the accessory respiratory organs of fishes with diagrams. 6+2=8
5. Discuss briefly about the perching mechanism of birds. 8
6. Discuss about the aquatic adaptation in mammals. 8

SECTION—B

( **Comparative Anatomy** )

( Marks : 12 )

7. Compare the pelvic girdle of reptiles and birds. 5

Or

Compare the alimentary canal of birds and mammals.

8. Compare the heart of reptiles and birds. 7

Or

Compare the genital system of birds and mammals.

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