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2 SEM TDC ZOO M 1 (N/O)

2016

(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 non-protein part of a conjugated protein is called _____.

(ii) Water is a _____ compound.

(iii) Randomness or disordered state of energy is known as _____.

(2)

(iv) Night blindness is caused due to the deficiency of vitamin ____.

(v) The pH of human blood is ____.

(b) Differentiate between the following : $2 \times 4 = 8$

(i) Heteropolysaccharides and Homopolysaccharides

(ii) Essential and non-essential amino acids

(iii) Nucleosides and Nucleotides

(iv) Acid and Base

2. What is energy-rich compound? State the role of energy phosphates as the 'energy currency' of the cell.

$1 + 6 = 7$

Or

Briefly describe the uses of thermodynamics in biological system.

7

(3)

3. Define lipid. Give a brief classification of lipids with examples. 1+6=7,

Or

What are the monomers of protein? Write about the different levels of the organization of protein. 1+6=7

4. What are the fat-soluble vitamins? Write on the sources and functions of different fat-soluble vitamins. 1+6=7

Or

What are enzymes? Write about the different theories of the mechanism of enzyme action. 1+6=7

5. What are the different types of RNA? Describe briefly about the functions of different types of RNA. 1+6=7

Or

Write about the important features of the Watson and Crick's double helical DNA model. 7

(4)

6. Explain the different steps of Krebs cycle.
Why is it called citric-acid cycle? 6+1=7

Or

Briefly describe the process of Electron
Transport System (ETS) and ATP synthesis. 7

(5)

(Old Course)

(ANIMAL DIVERSITY—II AND COMPARATIVE
ANATOMY)

Full Marks : 48

Pass Marks : 19

SECTION—A

[Animal Diversity—II (Chordate)]

(Marks : 36)

Answer Question No. 1 and any three from the rest

1. (a) Fill up the blanks : 1×4=4

(i) The common name of the
Herdmania is known as _____.

(ii) *Protopterus* belongs to the
order _____.

(iii) In birds teeth are lacking, being
replaced by a much lighter _____.

(iv) Typically fish have _____ chambered
heart.

(b) Write short notes on the following : $4 \times 2 = 8$

(i) Affinities of protochordates

(ii) Metamorphosis in amphibia

2. What is locomotion? Write about the locomotion in fish. $2+6=8$

3. Write an elaborate note on metamorphosis and neoteny in amphibia. $5+3=8$

4. Write about the poison apparatus and explain the biting mechanism of poisonous snake with proper diagrams. $2+6=8$

5. What do you mean by flight mechanism? Write about the flight mechanism in birds with suitable diagrams. $2+6=8$

6. Write distinctive affinities of Monotremata and Marsupialia with examples. $4+4=8$

(7)

SECTION—B

(Comparative Anatomy)

(Marks : 12)

7. Compare the integumentary system of amphibian and fishes. 5

Or

Compare the respiratory system of birds and mammals. 5

8. Compare the pectoral girdle of reptiles and birds. 7

Or

Compare the urinogenital system of reptiles and birds. 7
