Total No. of Printed Pages—5

2 SEM TDC ZOO M 1 (N/O)

2014

(May)

ZOOLOGY

(Major)

Course : 201

Full Marks : 48
Pass Marks : 19

Time : 2 hours

The figures in the margin indicate full marks for the questions

(New Course)

(BIOCHEMISTRY)

1. *(a)* Fill up the blanks : 1×5=5

(i) At 25 °C, the hydrogen ion concentration of pure water is ——.

(ii) pK is the pH, at which amino acids are —— ionised.

(iii) In glycolysis —— numbers of substrate level ATP are released.

(iv) Chemically the vitamin A_1 is ——.

(v) Genetic code is the triplet language of nucleotides in ——.

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

(i) β-oxidation of fatty acid

(ii) High energy phosphates

(iii) IUB classification of enzymes

(iv) Structure of DNA

2. Explain the free energy change in biological system. 7

Or

Write about the redox system.

3. What is protein? Discuss about the different levels of organization of protein. 1+6=7

Or

Write about different types of lipids. 7

4. Show the different steps in Krebs cycle and the end products of TCA cycle. 5+2=7

Or

Give the sequence of electron carriers in the electron transport chain and show the location for ATP synthesis. 7

5. How different factors influence the activity of enzymes? 7

Or

Write about the source and function of any two fat-soluble vitamins. 3½+3½=7

6. Write about the different types of RNA. 7

Or

Explain the different properties of genetic code.

(Old Course)

(ANIMAL DIVERSITY—II AND COMPARATIVE ANATOMY)

SECTION—A

[Animal Diversity—II (Chordata)]

(*Marks* : 36)

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

1. *(a)* Fill in the blanks : 1×4=4

(i) Amphioxus belongs to the subphylum ——.

(ii) Birds produce sound by ——.

(iii) Eel is the best example of —— migration.

(iv) The wings of flying mammals are called ——.

(b) Write short notes on the following : 4×2=8

(i) Sphenodon

(ii) Parental care in fish

2. Write the post-embryonic development of balanoglossus and mention the larval significance in affinities. 5+3=8

3. Mention the key characters of Petromyzontia and discuss the importance of ammocoete larva in evolution. 4+4=8

4. What is neoteny in amphibia? Describe the biting mechanism of poisonous snakes. 2+6=8

5. Discuss briefly the flight adaptation of Aves and mention the flight muscles. 5+3=8

6. Give a detailed account on the adaptation of aquatic mammals. 8

SECTION—B

(Comparative Anatomy)

(*Marks* : 12)

7. Compare the heart of reptiles and mammals with suitable diagram. 5

Or

Compare the kidney of reptiles and mammals with suitable diagram.

8. Compare the pectoral girdles between Aves and Mammals. 7

Or

Compare the integumentary derivatives of fish and amphibia.

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