

2 SEM TDC ZOO M 1 (N/O)



2017

(May)

ZOOLOGY

(Major)

Course : 201

Time : 2 hours

Zoo = 201

Phy = 201

Geo = 201

Math = 201

Stat = 201

Chem = 201

(with Geo)

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 chemical form of energy of a system available for use in work is known as _____.

(ii) The lipids that contain carbohydrate groups are called _____.

- (iii) Multiple forms of an enzyme that catalyzes the same reaction are called _____.
- (iv) Retinol is an example of _____ soluble vitamin.
- (v) Synthesis of lagging strand during replication of DNA is accomplished in short fragments known as _____.

(b) Differentiate between the following (any four) : 2×4=8

- (i) Free energy and entropy
- (ii) Saturated and unsaturated fatty acids
- (iii) Glycolysis and Krebs cycle
- (iv) Replication and transcription
- (v) mRNA and rRNA

2. What is pH? Write briefly about the buffers and mention their role in biological systems.

1+6=7

Or

State the first and second laws of thermodynamics. Discuss their applications in biochemical systems.

2+2+3=7

3. Why are amino acids called as amphoteric molecules? Give a brief classification of amino acids with examples. 1+6=7

Or

What are polysaccharides? Write how they are classified with examples. 1+6=7

4. What is oxidative phosphorylation? Where does it take place in a cell? Briefly discuss the process of oxidative phosphorylation. 1+1+5=7

Or

Discuss the steps involved in glycolysis. What is the net number of ATP gained in glycolysis? 6+1=7

5. What do you understand by enzyme inhibition? Discuss different types of enzyme inhibition. 1+6=7

Or

Define coenzyme. What are fat soluble vitamins? Mention their functions. $1+1\frac{1}{2}+4\frac{1}{2}=7$

(4)

6. Why is replication of DNA called as semi-conservative? Write briefly about the mechanism of DNA replication. 2+5=7

Or

What is genetic code? Discuss the properties of genetic code. 1+6=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 Balanoglossus belongs to class _____.

(ii) Attainment of sexual maturity during neoteny is called as _____.

(iii) In birds, forelimbs are modified into _____.

(iv) _____ is an example of oviparous mammal.

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

(i) Larval forms of Urochordata

(ii) Accessory respiratory organs in fish

2. What is migration? Write about the different types of migration in fish with example. $2+6=8$

3. What do you mean by parental care? Write about the different modes of parental care found in Amphibia. $2+6=8$

4. Write about the anatomical peculiarities and affinities of Sphenodon. $4+4=8$

5. Write about the perching mechanism with suitable diagrams in birds. $2+6=8$

6. What is dentition? Write about the dentition in mammal with appropriate examples. $2+6=8$

SECTION—B

(Comparative Anatomy)

(Marks : 12)

7. Compare between the pelvic girdle of reptiles and birds with a brief note and suitable diagrams. 5

Or

Compare between the cranial nerves of fish and amphibia with suitable diagrams. 5

8. Compare between the structure of heart found in reptiles and mammals with diagram. 2+5=7

Or

Compare between the alimentary system of reptiles and birds with diagram. 2+5=7
