



Reg. No. :

Name :

V Semester B.Sc. Degree (CCSS – Reg./Supple./Imp.)
Examination, November 2014
CORE COURSE IN ZOOLOGY
5B07 ZLG : Biochemistry and Biophysics

Time: 3 Hours

Max. Weightage : 25

SECTION – A
(Biochemistry)

- I. Essay. Answer **any one** : **(Weightage 4 each)**
- 1) Describe briefly the classification of carbohydrates.
 - 2) Explain major factors influencing enzyme action. **(1×4=4)**
- II. Short essay. Answer **any three** : **(Weightage 2 each)**
- 3) Derive Handerson Hassel Bach equation.
 - 4) Briefly explain the biological importance of lipid.
 - 5) Explain different types of RNA.
 - 6) Describe the secondary structure of protein.
 - 7) What is the difference between glycogenolysis and gluconeogenesis ? **(3×2=6)**
- III. Short answers. Answer **any five** : **(Weightage 1 each)**
- 8) What are buffers ?
 - 9) What is glycosidic linkage ?
 - 10) What are steroids ?
 - 11) Name two isozymes.
 - 12) What you meant by cyclic AMP ?

(S-1×5)



13) What is ω -oxidation ?

14) What are enzyme inhibitors ?

(5×1=5)

IV. Answer the following :

(Weightage 1 each)

15) a) Collagen is a _____ protein.

b) _____ is an example of a phospholipid.

c) Sucrose is commonly called _____

d) Anticodon arm is a characteristic of _____

16) Match the following :

a) Collagen

– Phospholipid

b) Lecithins

– Structural protein

c) Homoglycans

– Transaminase

d) Transferases

– Polysaccharides

– Contractile protein

(2×1=2)

SECTION – B
(Biophysics)

V. Answer any two :

(Weightage 2 each)

17) Explain the components and working principle of SEM.

18) Write down the principle and applications of column chromatography.

19) Discuss the biological effects of radiation.

20) What is cell fractionation ? Comment on the different types of centrifuge.

(2×2=4)

VI. Answer any two :

(Weightage 1 each)

21) What is pellet ?

22) State Lambert's law.

23) Name the units radiation.

24) What are radioactive isotopes ?

(2×1=2)



VII. Answer the following :

(Weightage 1 each)

25) a) Chromatography refers to _____ (separation/comparison)

b) RP refers to _____ (power of microscope/unit of radiation/speed of centrifuge)

c) Separation of charged molecule is made possible by _____ (electrophoresis/chromatography/autoradiography)

d) SEM stands for _____

26) Match the following :

a) Pellet

– Adsorption

b) Electron gun

– X-ray crystallography

c) Chromatography

– Centrifugation

d) Collimator

– TEM

– Autoradiography

(2×1=2)