

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2023
(Sixth Semester)

Branch – ZOOLOGY

BIOCHEMISTRY

Time: Three Hours

Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(10 x 1 = 10)

- Choose the major function of Carbohydrate
(i) Storage
(ii) Structural framework
(iii) Both storage and Structural framework
(iv) Transport materials
- Identify the acid with reducing property
(i) Mucic acid
(ii) Glucaric acid
(iii) Gluconic acid
(iv) Glucuronic acid
- Which of the following express the number of OH groups in fats?
(i) Reichert- Meissl number
(ii) Polanske number
(iii) Iodine number
(iv) Acetyl number
- State the correct answer that if the solution has to be a buffer, its pH should be -----.
(i) its pKa value
(ii) its Ka value
(iii) at 7
(iv) at 14
- Find the number of amino acids that make up a protein?
(i) 10
(ii) 20
(iii) 30
(iv) 50
- Mention the nature of Coenzyme
(i) often a metal
(ii) always a protein
(iii) often a vitamin
(iv) always an inorganic compound
- Label ATP as a -----.
(i) Vitamin
(ii) Nucleic acid
(iii) Nucleoside
(iv) Nucleotide
- What is the type of stationary phase is used in Thin layer Chromatography?
(i) Solid or Liquid
(ii) Liquid or Gas
(iii) Solid only
(iv) Liquid only
- Indicate the Net gain of ATP during conversion of Glucose to Pyruvate
(i) 1 ATP+1GTP
(ii) 2 ATP
(iii) 4ATP
(iv) 6 ATP
- Where does TCA cycle occurs in Prokaryotes ?
(i) Mitochondrial matrix
(ii) Cytosol
(iii) Nucleus
(iv) Ribosomes

Cont...

SECTION - B (35 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 7 = 35)

11. a. Analyze the structure, occurrence and properties of Lactose.
OR
b. Show the classification of Polysaccharides with examples.
12. a. Narrate the properties and biological functions of Fatty acids.
OR
b. Explain the structure and biological significance of Water.
13. a. Describe the hydrolysis and denaturation of proteins.
OR
b. Bring out the factors that affect enzyme reactions.
14. a. Outline the Classification of Nucleic acid with their significance.
OR
b. Summarize the principle and applications of Colorimeter.
15. a. Sketch the β - oxidation of fatty acids.
OR
b. Summarize the reactions of Urea cycle.

SECTION - C (30 Marks)

Answer any THREE Questions

ALL Questions Carry EQUAL Marks

(3 x 10 = 30)

16. Discuss the reactions of monosaccharides with acids, alkalies and formation of Osazone.
17. Survey the biological buffers and their significances.
18. Distinguish the structure of Proteins.
19. Elucidate the Watson and Crick's double helical structure of DNA.
20. Summarize the reactions and energetics of TCA cycle.

Z-Z-Z

END