

C 60084

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Name.....

Reg. No.....

**SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2019**

(CUCBCSS)

Zoology

ZOL 6B 10—BIOCHEMISTRY

Time : Three Hours

Maximum : 80 Marks

A. Answer *all* questions. Each question carries 1 mark :

- 1 Name the first biochemical that was synthesised in the laboratory.
- 2 Name the cells in which fat is stored.
- 3 Name the nucleotides by which DNA is made up of.
- 4 Define enthalpy
- 5 What is a condensation reaction ?
- 6 What is the function of tRNA ?
- 7 List two high energy compounds other than ATP.
- 8 The induced fit model of enzyme action was put forward by \_\_\_\_\_.
- 9 Where does the ETC occur ?
- 10 What is the end product of glycolysis in an oxygen deficient muscle ?

(10 × 1 = 10 marks)

B. Answer any *ten* questions in two or three sentences each. Each question carries 2 marks :

- 11 What is the importance of ATP in biological systems ?
- 12 Distinguish between the biological roles of glycogen and starch.
- 13 Define the term 'Zwitterion'.
- 14 What is the principle behind spectrophotometry ?
- 15 What is the principle behind enzyme function ?
- 16 How does the structure of a protein define its function ?

**Turn over**

- 17 What are the biological roles of cAMP ?
- 18 Distinguish between a saturated and unsaturated fatty acid.
- 19 Sketch and label the structure of a pyrimidine base.
- 20 Where does the proton gradient in ATP synthesis mechanism build up?
- 21 What is the importance of beta-oxidation of fatty acids?
- 22 Define co-enzyme. Give one example.

(10 × 2 = 20 marks)

C. Answer any *five* questions in not more than a *paragraph* each. Each question carries 6 marks :

- 23 Giving one example each, distinguish between electrostatic and hydrogen bonds.
- 24 Write down the principle involved in Bradford's test.
- 25 Distinguish between primary and secondary structure of proteins.
- 26 What is column chromatography ? What are its applications ?
- 27 Describe the ETC.
- 28 Write a short note on the role of biochemistry in diagnostics.
- 29 How is cAMP different from AMP ?
- 30 Explain beta-oxidation of fatty acids.

(5 × 6 = 30 marks)

D. Write *essays* on any *two* of the following. Each question carries 10 marks :

- 31 Describe the structural organisation of proteins.
- 32 Describe the lock and key hypothesis of enzyme function.
- 33 Giving proper illustrations, describe the structure and function of tRNA. Add a note on the other types of RNA and their functions.
- 34 Describe the Krebs's cycle.

(2 × 10 = 20 marks)