C 60084 (Pages : 2) 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 Kreb's cycle.

(2 × 10 = 20 marks)