

2022

ZOOLOGY (Honours)

Paper Code: ZOOL-H-DC-8

(Biochemistry)

Full Marks: 25

Time: Two hours

*The figures in the margin indicate full marks.
Candidates are required to give their answers
in their own words as far as practicable.*

1. Answer any *eight* questions :

$\frac{1}{2} \times 8 = 4$

- a) The oxidative phase of pentose phosphate pathway is reversible in nature.
(True/False)
- b) Give an example of ketogenic amino acid.
- c) Give one example of structural homopolysaccharide.
- d) Arginine is considered as semi-essential amino acid. (True/False)
- e) Name the glycosidic linkage present in Maltose.
- f) Give an example of uncoupler of ETC.
- g) How many FADH₂ molecules are produced after Krebs cycle from one molecule of glucose?
- h) Myoglobin is an example of quaternary protein. (True/False)
- i) Give an example of glycoprotein.
- j) Under anaerobic condition, pyruvate converts to _____. (Fill in the blank)
- k) Give an example of imino acid.
- l) The nucleus of all steroid is called _____. (Fill in the blank)

2. Answer any *two* questions :

$2\frac{1}{2} \times 2 = 5$

- a) What are Epimers? Give an example.
- b) Briefly describe the α -helix secondary structure of protein.
- c) Give a brief account of phospholipids.
- d) Distinguish between competitive and non-competitive inhibition of enzyme action.

3. Answer any *four* questions :

4×4=16

- a) Describe in brief the structure of ATP synthase with a labelled diagram. 3+1
 - b) Discuss the process of Transamination.
 - c) Briefly describe the process of urea formation from ammonia.
 - d) What is glycosidic bond? Write the substrate level phosphorylation steps of glycolysis. 1+3
 - e) What are nucleotide and nucleoside? Give the structure of Purine and Pyrimidine nucleus.
 - f) Classify enzyme based on the reactions catalyzed by them.
 - g) Discuss the process of glycogenolysis.
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