Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 09

B.Sc.Agriculture (2014 to 2018)/Hons. (Agriculture)   (Sem.–1)
BIOCHEMISTRY
Subject Code : BSAG-103
M.Code : 72210

Time : 3 Hrs.   Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :
1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1.   **Define :**

   a.   What are the distinct features of a plant cell?

   b.   Name any four standard amino acids with three- and single-letter codes.

   c.   "*All enzymes are not proteins.*" Justify the statement.

   d.   Define apoenzyme and holoenzyme with examples.

   e.   Give a brief account of purines and pyrimidines.

   f.   List some common fatty acids found in living organisms.

   g.   State briefly the biological importance of ATP and dATP.

   h.   Write only the principle of oxidative phosphorylation.

   i.   Write a brief note on gluconeogenesis.

   j.   What are phenolics? Clarify with examples.

SECTION-B

2. Give a list of fat-soluble vitamins, and state briefly their biological importance.

3. Discuss critically the major factors that influence enzyme activity.

4. State the means of calculating standard free energy change ($\Delta G'°$) of reactions.

5. Elaborate the steps of palmitic acid oxidation in living organism.

6. Give a brief and comprehensive account of starch biosynthesis.

SECTION-C

7. Illustrate primary, secondary, tertiary and quaternary structures of proteins.

8. Write precise notes on pentose phosphate pathway and amino acid degradation.

9. Elucidate hormonal control of the metabolic pathways in animals.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.