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**University Examinations 2014/2015**

SPECIAL/SUPPLEMENTARY EXAMINATION FOR THE DEGREE OF BACHELOR OF HORTICULTURE

**AAF 3120: BIOCHEMISTRY**

**DATE: JULY 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Describe hydrogen bonding in water and its significance (5 Marks)
2. Explain four conformational levels of protein (8 Marks)
3. Explain the functions of cell wall (5 Marks)
4. Outline the biomedical importance of lipids (5 Marks)
5. Explain the three ways that monosaccharides can be classified (5 Marks)
6. Outline the three distinct regions of a plant cell (3 Marks)
7. Describe two types of chemical reaction (4 Marks)
8. Describe the structure of an amino acid (5 Marks)

**QUESTION TWO (20 MARKS)**

Describe the structure of nucleotides and their roles (20 Marks)

**QUESTION THREE (20 MARKS)**

1. Describe the composition of the cell membrane (8 Marks)
2. Outline the functions of the cell membrane (4 Marks)
3. Enumerate the role of plant cell wall in livestock, paper and food industry (8 Marks)

**QUESTION FOUR (20 MARKS)**

1. Describe how atmospheric nitrogen gets changed into a form that can be used by most living organisms (16 Marks)
2. Describe human impact on nitrogen cycle (4 Marks)